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Fracture of a bone is a solution of its continuity, produced by mechanical violence or muscular contraction. The different forms of fracture are called simple, compound, comminuted and complicated.

Fractures are also termed oblique, transverse and longitudinal according to the direction.

When one or more bones are broken at one place without violence to the surrounding integuments it is a simple fracture; but if along with this there is a wound of the adjoining soft parts leading to the fractured extremeties of the bone it is called a compound fracture. If a bone be broken in a number of places it is styled a comminuted fracture: it may be either simple or compound. In complicated fracture there is not only injury done to the bone, but there is also a derangement of some of the large blood vessels or nerves.

The oblique form of fracture is said to be of the most frequent occurence in practice; it may occur in any of the before named kinds of fracture and when it does happen the limb is more apt to be shortened than in the other forms because the broken ends glide more easily over each other.

The transverse form being directly across the bone forms a right angle with its axis, the bones at the place of fracture may or may not protrude or the limb may be bent, or by the action of the muscles the limb may be shortened.

The longitudinal fracture is only met with in fracture of the condyles and patella or sometimes as a complication of comminuted fracture.

Fractures are also often accompanied with injury to important vessels

to which allusion has already been made in speaking of complicated fracture,

There may also be dislocation of the fractured bone, the brain may be injured by the bones of the cranium being fractured.

The exciting causes of fracture are mechanical violence or muscular contraction. When a bone is fractured by violence applied directly over the part it is called direct and when a bone gives way in the middle by force applied at each extremity it is said to be indirect for example the clavicle is frequently broken by a fall upon the shoulder or the chest is sometimes compressed between two points causing the ribs to give way near the middle.

The muscles may also act stronger than natural upon any of the bones and cause a fracture if they chance to be

preternaturally weak, but the bones most liable to this accident are the patella and olecranon.

The predisposing causes of fracture, are old age in which there is a deficiency of earthy material and want of elasticity in the animal matter and also certain diseases which affect the bones rendering them more liable to injury such as mollities ossium, scrofulous an cancerous cachexia.

In fracture the symptoms usually evince themselves quite readily to the practiced eye and hand of the surgeon.

These are deformity, such as bending or shortening of the limb, preternatural mobility, one end of the bone moving independantly of the other, crepitus, a grating noise heard or felt when the fractured ends of the bone are rubbed together, swelling, pain, inability to perform any muscular action with the part

The prognosis will depend much upon the situation and nature of the injury, some bones are less likely to take ossific or bony union than others e.g. the neck of the femur internal to the capsule the patella and olecranon, likewise the age, constitution and habits of the patient must be considered.

In infantile life there being a predominance of animal matter also in youth the bones not being fully ossified bony union takes place more rapidly than in adult life and more readily at this period than in old age.

Reparation after fracture of bones is produced by an effusion of lymph around the ends of the fractured bone. In the course of two or three weeks this becomes organized into a cartilaginous capsule forming what is called the provisional callus.

This callus gradually increases

in density, and in two or three weeks more becomes sufficiently ossified to permit of moderate use of the limb.

In the course of a few months absorption of the principal callus takes place and the bone is firmly united.

If any of the bones that are invested with synovial membrane are fractured there is an absence of the primitive callus, but if the fractured extremities are brought nicely into opposition and held firmly and steadily in their place osseous union will in time occur.

The great object in treatment of fracture is to procure union of the bone without deformity. To subserve this end reduction must be effected, not by acting with great violence suddenly upon the part, but by steady and gentle extension and counter extension the displaced parts are restored

to their original situation, after which means are to be employed for their retention. These are bandages, in which the limb is usually enveloped from its lower extremity upwards to prevent swelling and contraction of the muscles; compresses to fill any irregularities and prevent any undue pressure upon neighboring joints; splints to prevent shortening and motion at the place of injury, also to give firmness and preserve the parts in their natural position.

Splints are constructed of various materials such as wood, pasteboard, metal and straw. There can be no definite rule laid down for the employment of a particular kind of splint for every variety of fracture.

The surgeon must employ his own skill in determining the means best adapted to the case, ensuring lightness

and a firm support to the injured part as well as place the patient in as comfortable a position as possible.

If it is found that painful pressure is made upon any one point, the dressing must be loosened at that part and afterwards tightened to prevent any displacement.

The medicinal treatment would be tonics to restore the system to its natural tone, opiates to allay pain and spasmodic action, laxatives to keep the bowels open, & the catheter should be employed if necessary as it often is after injury of the lower extremities.

Compound fracture is caused by the same violence which produced the fracture and is protrusion of the bone, by sloughing of the soft parts likewise. The shock, prostration, inflammatory and febrile action attend

ing an injury of this kind are always more or less dangerous.

After reduction, great care must be taken to remove all foreign bodies from the wound ~~as~~ ~~s~~ small pieces of detatched bone &c if possible the integuments must be brought and held together by sutures and adhesive straps. It is desirable that the splints &c be so applied that the wound can be examined without removing all the dressings.

Comminuted and Complicated fractures are always attended with much danger and amputations are often requisite, Consideration however of the extent of the injury, age, constitution and habits of the patient must be ascertained in deciding upon amputation. If deemed advisable to amputate the operation should be performed before febrile inflammatory action occur. Should these symptoms appear the general mode of treatment must be adopted.

New Haven Jan. 14th 1857. A. Hopkins Churchill.

The Progress & Prospects of medical Science — Attempting to trace the profession of medicine to its origin would be like attempting to trace a great and mighty stream to one distinct and definite source — its practice is founded in the benevolent instincts and sympathies of human nature and is to be found in the history of every race and in every condition of man — the red Indian in addition to his wild incantations and ~~[illegible]~~ mummeries over the sick, derived from his fathers some similar knowledge of the uses and effects of certain roots and herbs administered probably by any thing or, is calculated to heal and mitigate pain — The learned Luther while examining so religiously and so minutely the entrails of animals

for the purpose of divining the disease of some unfortunate patient certainly had the opportunity been given of making some practical observations in anatomy such as might be of essential service in exercising his professional skill. How much or importance the masters of their art attached to these ceremonies or in what light they regarded them may be a matter of some question — it is probable that there were some of lofty minds who perceived how mighty an engine was mystery in their hands and employed it in connection with other means to accomplish their ends. "Pium ignotum pro magnifico" is a maxim the truth of which was as thoroughly demonstrated in medical history as in any other and that too whether we look at

it in a barbarous age or in an age of the highest civilization.
But medicine as a science is now by universal consent considered as beginning at the time of Hippocrates and from this time forward may be regarded as both a science and an art. with this Philosopher and Physician originated practices and doctrines which have held their credit for over two thousand years and are likely to do so till the end of time. his division of the temperaments into Sanguine Phlegmatic Choleric and melancholic with little modification is still considered worthy to be made in treatises upon Physiology, while blood letting his chief remedy in acute inflammation after many seasons of popularity and neglect is now advocated as a remedy not sufficiently practised in the New Eng-

in United States at the present time
From Hippocrates to Galen there
is no great light in medicine, in
the results of his observations and
the multitude of his works he
overshadowed his successors like
a Collossus - as an observer of nature,
a practical philanthropist one to
whom nations looked for relief
when suffering with plagues and
epidemics he bore the palm alone,
till Galen appeared, and in the spir-
it of the same philosophy, widely
extended the bounds of medical
knowledge by the dissection of the
human body - the introduction of
dissection was attended with a
two-fold danger - the opposition
of a superstitious and infuriated
public and the risk of poison
from the bites of the recent sub-
ject - but it is this that has been

the mind above all others of throwing light upon the character, and designating the seat of disease and thus affording indications for its treatment — here it was that the temple of the human body began to be unlocked and its hidden mysteries revealed — Since its practice to any considerable extent it has been attended with a series of observations and discoveries following each other in quick succession, that have wrought much in dissipating the doubt and uncertainty of the Physician's work — it has now been proved and most clearly within the last centuries that success in this as in all other arts is attained by diligent toil patient investigation and sound reasoning — The most brilliant discoveries perhaps that have ever been made in medical science

and the most complete as it emanated from the mind of one man was the circulation of the blood as explained by Harvey in the seventeenth century — dating from this time the advance which has been made in the profession has been in no more rapid than at any previous period — in the wake of Harvey's discovery naturally follows that of the aeration of the blood the office which it performs in assimilation and excretion and the various changes which it undergoes in disease — The progress of medical science is now intimately and inseparably connected with the departments of chemistry physiology and mechanics — The increased power and perfection of the microscope has introduced a field for observation such as we may

reasonably believe that just be
gun to be occupied while chemis
try is unfolding the intricate
complications of the elements as
they exist in the healthy body
and the diseased — it is reasona-
ble to suppose that the closer
we can trace the first depar
ture from normal action in cell
life, the stronger probability there
will be of success in counteracting
it — In this and should the use
of the microscope the arts of per
cussion and auscultation and the
science of Chemistry be cultiva
ted by medical men — The ancients
with their imaginative and specu-
lative habits of mind have hand
ed down to us models of art in
sculpture and painting and mod
els of literature that have been
instructive in modern times

but for those numerous applications of art to the relief of human suffering and to the increase of the common good we must look to a comparatively late period in the world's history — the very standard readers being to a great degree ignorant of the functions of the human body and of those first principles of anatomy and physiology which are now made part of a common education — indulged in idle theories and vain speculations — they wandered in labyrinths of error and uncertainty and ransacked the known world for drugs and specifics — the current of investigation at the present day is in a different direction — new remedies are looked upon with distrust while many of the old ones are regarded as more

commended. They are used and are administered out of respect to the Fathers and in answer to the demands of those who take them. There are but few remedies for which some substitute cannot readily be obtained. They are administered with the view of producing a definite effect in a definite way. Not only may the remedies of a certain class be varied to a great extent but the general means may be varied for accomplishing the same end, as for instance depletion may be brought about by venesection by cathartics by diuretics or by diaphoretics. There is a disposition to simplify rather than classify instead of a bewildering catalogue list of diseases with names which exhaust the vocabularies of two dead languages we are approach

ing to the principles which we derive from all. The effect of this change must be radical in respects the treatment of disease. It is like tying the trunk of an artery instead of attempting to secure a hundred bleeding branches. The simple termination thus obtained is the name of a tissue or an organ indicating exactly both the nature & the seat of the affection and includes diseases similar in their nature that under a different nomenclature were distinguished with much less accuracy. Bacon said that the first and most important thing in dialectics was that the parties should have correct definitions. The same is true of medicine and whatever leads to uniformity in the use of terms and a systematic classification of diseases and facilities

is to be hailed with joy in the pro-
gression —

George Clay.

Dissertation on the Blood.

Read before the Faculty of the Yale Medical College at the examination for the degree of Doctor in Medicine

by Cortlandt Van Rensselaer Cuyler of New Haven Conn.

The Blood.

Gentlemen! of the Medical Faculty.

The Anatomy of the animal tissues was long since ascertained. but the Blood out of which they are elaborated, and by which they are maintained, was not thoroughly and correctly analysed until a few years ago.

The Ancients we read, supposed that the arteries circulated air, and named them accordingly, what they did contain was not ascertained until the year 1619. the immortal "Harvey" then discovered that both arteries and veins circulated blood.

Since 1619. a host of Microscopists and Chemists have given it their attention, and now, the anatomy and chemistry of the blood, and some particulars of its physiological operations, are well known.

In this dissertation, I shall notice briefly a few of the particulars which I have learned in reference to the blood.

And first! what is the blood.

it is a red homogeneous fluid, of a saltish taste, and somewhat minous smell, and of a glutinous consistence, which by the agency of the heart is continually circulating in the arteries and veins of the body.

The quantity of blood in the adult is estimated to be about twenty eight pounds; of this, four parts are contained by the veins, and one, by the arteries.

The color of the blood in the arteries is of a florid hue, in the veins it is darker, except only the "Pulmonary Veins" which circulate arterial blood.

"Physiology demonstrates that it acquires this florid hue in passing through the lungs from the "Oxygen" it there absorbs.

"The Blood" is the most important fluid of the body, and an appreciation of this fact has led, in these later times, to frequent and various examinations of it.

Most of the knowledge which has been acquired by these investigations concerns its

normal and abnormal composition, rather than its vital and physiological attributes.

"Analysis Of the Blood". — according to analysis, the blood is found to be composed of "Water" 790 parts, "Corpuscles" red and white 127 parts, "Albumen" 80 parts, "Fibrin" 2 parts, "Total" 1000 parts, besides some saline substance in solution in the serum. In disease these constituents are frequently in a different proportion, instances "Hyperamia", Inflammation, Low Fevers &c. in Hyperaemia there is an increase in the number of the red corpuscles of the blood, this is the principal change in it. The existence of a plethoric or hyperaemic state of system, is indicated by a ruddy complexion, deep colored skin, and red mucous membrane, coinciding with these physical signs there is much functional activity, the respiration is strong and accelerated, the digestion quick and active, the pulse full and strong, and the motions of the body are performed with

quickness and power. This functional activity extends also to the mind, the plethoric person is quick in thought, and hasty and violent in temper. The injected skin and the brilliant complexion are caused by the circulation in the superficial vessels of an increased amount of blood containing an excess of red corpuscles, and the functional energy which characterises mind and body depend in a measure upon the great amount of "Oxygen" which the blood corpuscles carry to all parts of the system. The changes which take place in such blood when withdrawn from the system show an augmented quantity of the red blood corpuscles, thus the blood in plethora when abstracted appears thicker than natural, and the clot formed subsequently by coagulation, is of a larger size, it is of mean density, and does not exhibit the buffy coat; therefore the corpuscles must be increased while the amount of "Fibrin" is unchanged. Attendant upon

the plethoric condition we have frequently a number of pathological manifestations such as Apoplexies, Haemorrhages, Congestions, Vertigo's, Vomitus Aurium, Muscae Volitantes, &c., all of which are usually relieved by "Venesection", which withdraws from the system a portion of the super-abundant red blood corpuscles. "In Inflammation"; there is an increase in the amount of fibrin, in fact the augmentation of this substance in the blood is so certain a sign of inflammation that if we find more than 5 parts of fibrin in 1000 in the course of any disease we may affirm with surety that an inflammation exists.

According to Andral, the average proportion of "Fibrin" in inflammation may be estimated at 7 parts in 1000 the minimum at 5 the maximum at 12, the greatest augmentation is seen in Pneumonia, and Acute Rheumatism. It does not appear that in robust athletic persons the amount

"Of Fibrin" is greater than in those of feeble constitution; in the latter it is the corpuscles that are deficient, and it is rather from this disproportion, than from an absolute excess of fibrin that their greater liability to inflammatory affections arises. In some cases of Pneumonia and Acute Rheumatism, M. Andral detected 10 parts of "Fibrin" in every 1000 of "Blood". It is not however merely in cases of pure and extensive inflammation that the proportion of the fibrin in blood becomes augmented; it is increased somewhat in every organic affection which is accompanied by even a slight degree of inflammation, thus in "Phthisis" at the period of the elimination of the tubercle, also in "Cancer", we have an increased amount of fibrin in the blood. "In Utero Gestation, the proportion of fibrin in the blood is augmented, it is stated however by M. Andral that this increase manifests itself only in the three last months of "Pregnancy", previously to which

the proportion of the fibrin is found to be slightly diminished. This augmentation goes on increasing from the sixth to the ninth month, and is greatest at the term of the completion of Uterine Gestation; which fact offers a satisfactory explanation of the reason of the liability to inflammatory attacks of women recently delivered.

It is probable that blood-letting is often serviceable in inflammatory disorders by removing from the system directly, a portion of its super-abundant fibrin; so great however is the tendency to fibrinous formation that, notwithstanding the "Lancet" may be used frequently, the fibrin will again become excessive.

In Fevers; there is usually a deficiency of fibrin. — The researches of "Physiologists" establish the fact that in that much debated class of Maladies, Fevers, there is a deficiency in the blood of its coagulable element.

In some fevers, and especially in the commencement, the deficiency of fibrin may be but small, whereas in others, particularly in low fevers the deficiency is considerable from the outset, and further, the intensity of the symptoms in such fevers is in direct relation to this loss. The deficiency of fibrin does not however constitute the essence or real cause of fever, for this, we must look to some other agent, probably to the contamination of the general mass of the blood by some subtle and deleterious miasma. That the deficiency in the amount of fibrin is not the cause of fevers, we find from the fact that this class of maladies attacks persons of every possible variety of habit and constitution in many of whom, at the onset of the disorder, no deficiency of fibrin can be detected.

The inference which may be drawn from this, is, that the tendency of the

cause of fever a miasma, or whatever else it may be, is, to occasion a depreciation of the physiological standard of the fibrin in the blood.

"When the blood is examined under the Microscope the red corpuscles appear to constitute almost its entire substance.

"The number of red corpuscles existing in the blood surpasses by many times that of the white. "Form".- In man and in most mammalia the red blood corpuscles are of a circular but flattened form, with rounded edges, and a central depression on each surface, the depth of which varied according to the amount of the contents of the globule.

"Size".- The size of the red corpuscle of the blood, although more uniform than that of the white, is nevertheless subject to considerable variation; the globules contained in a single drop of blood are not all of the same dimensions.

The usual size in the human subject is estimated to be about the $\frac{1}{3500}$th. of an inch, but occasionally globules are met with not exceeding the $\frac{1}{4500}$th. and again others are encountered of the magnitude of the $\frac{1}{2200}$th. of an inch. "White Corpuscles". — The white corpuscles of the blood are by far less numerous than the red compared with the red perhaps they are as 1 to 40. "Form". — Instead of being of a flattened and disc like form as are the red corpuscles the shape of the white corpuscle is in all classes of the animal kingdom, globular. "Size". —

In man and the mammalia generally the white globules are larger than the red, like those also their dimensions vary very much in the blood of the same individual abstracted at any given time, their average size when contained in the serum of the blood may be estimated at about the $\frac{1}{2500}$th. of an inch, when

immersed in water however they swell up and increase very considerably in size in this liquid sometimes measuring the 1000th. of an inch. In the blood of reptiles, especially in that of the frog, a contrary relation between the size of the red and white corpuscles exists, the latter, in these, instead of being larger than the red corpuscles are two or even three times smaller. Also there is a difference in outline for in the frog and reptiles generally the red corpuscles have an elliptical shape. The important functions of the "Blood Corpuscles" are performed in the Capillary Vessels.

Probably the special office of the red corpuscles is to enable the destructive and reparative processes which are continually going on in all parts of the body to be performed, for they are ever carrying "Oxygen" to every part, and this unites with the Carbon which

the disintegrating particles are chiefly resolved into. The result of this union is an elimination of "Heat". Thus every every part of the animal body had in itself its source of heat. "From this we may infer that the changes which respiration produces in the blood take place in the corpuscles, and secondly that the corpuscles are intimately concerned in the elimination of animal heat.

"Difference between the blood of "Cold Blooded Animals", and those of "Warm Blood". — In those animals which consume a small quantity of "Oxygen", the temperature of their bodies varies with the surrounding medium, hence they are termed Cold-blooded. But in those that consume a larger quantity of "Oxygen" the temperature is nearly uniform whatever be the temperature of the medium. They are hence called warm blooded.

"The temperature of the same animal varies often according as the respiration is

sluggish or rapid, Man, Quadrupeds, and Birds, are warm blooded animals.

Fishes, and Reptiles, are cold blooded.

"Respiration". — The blood as above intimated in its progress through the system becomes charged with carbon which gives to it a dark color.

When it passes into the "Lungs" the air is brought in contact with it, the carbon unites with the Oxygen forming "Carbonic Acid" which is expelled, and the blood is changed to a bright red, it is now fitted to invigorate the system.

"Circulation of the Blood".

This is performed in the following manner. The blood is emptied into the "Right Auricle" of the heart by the descending and ascending vena cava's, which when distended contracts and sends its blood into the right ventricle from the right ventricle it is propelled through the Pulmonary Artery to circulate

through, and undergo a change in the lungs.

"Having undergone this change in the lungs it is brought to the left auricle of the heart by the four pulmonary veins, and from thence it is evacuated into the left ventricle, the left ventricle when distended contracts and throws the blood through the aorta to every part of the body to be returned by the veins.

"Thus the blood goes to every part of the body. By means of it the body lives, it is the vital fluid.

"It is estimated that the entire quantity of blood passes through the heart, in a healthy adult, in a little over three minutes.

"Finally! Some of the Uses of the Blood. —

"The tissues are made from the blood, and by it they are nourished.

"Tissues so unlike each other as bone, muscle, and nerve, find

in this fluid their peculiar elements, and by ~~processes~~ as mysterious as they are wonderful, they convert those elements into their own structure.

"Again: the blood furnishes the material of the secretions, fluids so dissimilar as bile, and milk, and gastric juice, are eliminated from it. It is also the medium through which the worn out elements of the body are excreted.

"And lastly: It is intimately concerned in the generation of "Animal Heat".

Cortlandt Van Rensselaer Breed.

David Anson Hodges

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Steam.

Introduction.

To the intelligent observer of passing events nothing presents a more interesting field for contemplation, than the busy arena of life, in which he is a part, and with which he daily mingles. The study of man, his nature, and his capacities, has claimed the attention of the most powerful minds in past ages.

We admire and admire the Steam Engine. Its complexity and wondrous adaptation to our wants, and necessities, is sufficient to excite us to an admiration of its structure as one of the greatest and most useful inventions of man; but man is a machine, that for mechanical arrangement and accurate adaptation, is far surpasses it as a natural plant exceeds an artificial one.

There is nothing like man in organic matter. We have seen him

and within him the impression of his Almighty Creator. From creation till death he is endowed with a mysterious vitality, and when his moral destiny is finished, life extinguishes and his body dissolves into the elements that composed it; according to an organic law of nature, which is inexplicable, immutable and irrevocable; and no animal is exempted from its fatality.

As every machine of human invention is liable to become disordered in some of its parts by constant use and exposure; so is it in respect to man. This mechanism, of exceeding beauty, and seeming perfection, is liable to become impaired in some of its parts, and then refuse to perform their allotted function.

The human body is composed of parts; each part constitutes a separate economy, depending on the whole: and the whole is sustained by its parts.

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In the very structure, like alone the muscular, and indeed in every part of the body. Blood vessels composed of arteries and veins, extend and ramify in all directions which vary in size from a considerable, to an almost imperceptible thread.

The office of the arteries being to convey the respirated blood to all parts of the body, to repair its waste, and support, and cause its growth: while the veins return the blood being deprived of its oxygen, and having therefore carbonized, unfit for nutrition and no longer suitable for use, convey it to the capillaries of the lungs, to be subjected to the influence of the respiratory process and thus become reoxygenized by which its carbon and hydrogen are eliminated, that renders it destructive to animal life.

— Reviewing the sensation and results of this animal machine. There exists in its constitution a mysterious necessity for disease and death.

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It is my object now at the present time to consider briefly one of the many diseases which man is subject to. And I have chosen for the subject of a few consideration Tetanus. "A disease manifested in the spasm and rigidity of some or many of the muscles of voluntary motion", as it is a disease of the nervous system I will dwell for a moment in the consideration of the nerves themselves. The nervous system consists of a central organ, the cerebro spinal centre or axis and of a great number of white cords the nerves, which are in one extremity connected with the cerebro spinal centre and in the other are distributed to all the textures of the body. There is one exception to this description, however which might be well to mention.
I refer to the sympathetic system, for in place of one it has many small centres which are called ganglia and which communicate freely with the

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nerves as well as the cerebro spinal axis.

The cerebro-spinal axis consists of two portions, the brain, and spinal cord, which is but a prolongation of the brain.

The nerves proceeding from the brain and spinal cord extend in all directions from the thickness of a finger's breadth, to the finest gossamer thread, giving life, sensation, and motion to all parts of the body.

The brain seems to be an animal galvanic apparatus in which the vital principle is generated, and the nerves are vital conductors.

The nerves of the senses, communicate between the mind and the external world through the medium of the brain.

Even thought, and action, good, and evil, is but the effect of the nervous influence which has its origin in the brain. The mind resides in

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the brain. It is for instance, to throw where the faculties in amazing vigour and cogitate on nature and creation, contemplating through universal space and wandering from time to eternity, bowing with due reverence and humility to the great God of the Eternal.

This intellectual faculty may be the seat of disease and its beautiful features all involved.

I will now advert to a disease serious in its origin and extent.

Tetanus. The definition having been given I will first speak of the different kinds.

There are several varieties of this disease. The idiopathic, or that which arises from some disorder of the system, and the traumatic which is caused by a wound.

It may be acute in form or chronic. The former approaches suddenly and soon terminates, usually affecting the whole

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body, and sometimes prove fatal.

While the chronic is of less intensity and generally longer duration, never affecting the whole body, and most curable terminating in recovery.

Tetanus may be general, or partial; and when partial it is confined usually to the neck and face, constituting Trismus, or what is known as "locked jaw."

Terms are used to designate the different set of muscles involved; opisthotonus when the body is curved backwards, as it were on the occiput and heels, this is a common variety: emprosthotonus when the curvature is towards, and Pleurosthotonus, when it is drawn to one side. This however is very rarely the case.

I shall first speak of the distinctive symptoms of each variety.

Tetanus Traumatic is always preceded by an inflammatory, more or less continued, irritant

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and painful contraction. — is ushered "by cramps in the muscles of various parts, or, as we say, the limb tires".

There is no difficulty in recognizing the disease when it is fully developed. But to mark with accuracy its approach and become familiar with the earliest symptoms is of no little importance, in respect to the proper treatment to be adopted.

The symptoms of tetanus are the following.

The patient first feels a slight pain and stiffness of the neck and jaw, as from a cold: his countenance is changed, bearing a peculiar expression, resembling a painful smile, owing to the distortion of the mouth and eyes by the incipient spasm of the facial muscles.

There is great difficulty of swallowing, as the muscles of mastication and deglutition become fixed and rigid

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with spasm.

A pain at the pit of the stomach, shooting to the back, and a convulsive sigh and shriek, indicating that the diaphragm and muscles of the glottis are affected, are symptoms which are of importance to be considered.

The abdomen is remarkably sensitive to the feel, and there is distinct constipation. The saliva flows from the mouth, because the patient is unable to swallow. This spasm never entirely ceases, but there are occasional remissions of violence, alternating with aggravated paroxysms which are easily excited by the slightest disturbance.

The intellect is rarely impaired in the least, and the mind is natural except during a severe paroxysm which increases in frequency and violence as it

It is a curious thing indeed which sometimes occurs; when the spasm is observed

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to give way, and the muscles become relaxed during sleep, and the moment the patient is aroused the full tension of the muscles is resumed.

Prognosis. — The prognosis in acute tetanus is exceedingly unfavourable and especially if traumatic. The prognosis however is favourable if the disease is partial, and particularly if the muscles of the visits are not affected; if the remedies used tend to mitigate the disease; if the pulse is not much accelerated, and if the patient sleeps; while on the other hand the prospects are unfavourable if the spasms continue to increase in severity, and if the muscles of the glottis are involved.

Diagnosis. — Tetanus may perhaps in its earliest stage be confounded with hydrophobia, as it resembles this disease in the difficulty of swallowing, and also in the aggravating the spasms by external irritation: but it is however easy to distinguish the

disease by the spasms being continuous, and by the sensibility of the patient to the slightest excitation in hydrophobia there are fits, convulsions with severe intermissions, with more or less delirium and a wild expression of countenance.

Causes. But before I speak of the causes of this disorder I will mention another disease with which it may be confounded, hysteria which sometimes mimics its phenomena. Ingestion of a poisonous dose of strychnia or its salts, may perhaps be mistaken for tetanus.

I will now speak of the causes of this direful disease.

Tetanus not infrequently arises from a severe cold, but most commonly however it is caused by wounds and injuries of any description, especially lacerated and contused wounds, gun-shot wounds, compound fractures and wounds irritated by foreign matters, or in which nerves are exposed. It is probably the case, moreover that in addition to the injury, there is a

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concurrent or predisposing cause at work.

The same causes of irritation and other predisposing to the traumatic variety may also produce the idiopathic.

Spinal irritation is not an unfrequent cause.

Pathology. — The pathology of tetanus is exceedingly obscure. Did we not know more as to than those nervous diseases may be and which produce violent convulsions and yet death without leaving upon the cells any traces of their operation.

Inflammation of some is considered to be the cause, but this has been refuted by others. For the spinal cord has been examined after death and yet found without even a trace of vascularity, and again as tetanus may be established during a state of depression and collapse which would be quite incompatible with inflammation. It is, at least, that inflammation is not essential to the existence of tetanus

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It must be concluded then that tetanus is a functional derangement of a portion of the nervous system, and that it consists in an unnatural excitability of the spinal cord, by which spasms of the muscles are produced.

Treatment. — The treatment of tetanus is according to the nature of the case a very anxious subject, as it has been always a lamentable fatal disease particularly tetanus supervening on a wound.

Nearly all the acute and traumatic cases are fatal. Under any hopeful treatment a great majority die, and as to the mode of treatment to be observed there are many and various opinions.

Opiates by some have been considered invaluable, while others reject their use. But very large doses of opium however, have been borne in this disease and some have recovered under its use, while many more have died

To repeat in a few words the Medical treatment. Medicine must be administered in a proper dose and must be administered long as there can be a reasonable chance that it is a Question. Many cases have been cured at all. Many have been not simply recoveries.

The expectant treatment considered by some to be best service. Not a safe and proper treatment, rest and comfort.

Bleeding has all been abandoned in inflammation, if the patient is robust and the arteries not, feeble and swollen is important.

Mercury given in such a manner as to salivate the patient has been approved.

Purgatives are always indicated unless there be some peculiar cause which forbids their use.

Opium, - as an enema is considered an efficacious remedy in Acute Tetanus.

I will now refer briefly to Chronic Tetanus

It differs from the acute variety only in regards severe. The prognosis is a good more favorable. and in regard to the treatment, positive, negative could be more satisfactorily used than. Liniments, tonics. and the shower-bath.

To sum up in a few words, the most suitable means to be resorted to in the treatment of this disease I will enumerate the following suggestions.

First, To remove all known causes of irritation (sudden)

Second. To diminish the susceptibility of the nervous system. (opium)

Third. To diminish the nervous irritation by the use of Tinct of Aconite. or tobacco enema or powerful revulsives &c

Lastly. support the patient as much as possible by nutritious diet and cordials.

Connection between Mind and Body in Disease

So numerous and so varied are the theories that have been promulgated concerning the nature of the mind, it may be well to premise by stating our views on this subject before proceeding to that which we have selected for our dissertation.

Man is composed of two distinct parts, the Body & the mind; the former consists of elements similar to those entering into the inanimate and unorganized structures of the material world. It is subject to all the laws controlling other forms of matter, when it is separated from that more ethereal part the mind. This last immaterial element is that invisible agent in man, which thinks, feels & desires; distinct in its existence from matter and in no way controlled by the same laws.

In this view we differ from materialists who maintain that mind & matter are one. The mind while connected with the body binds its constituent elements together by a vital affinity; hence the body differs from other forms of matter so long as life remains but life departs however and the body under the action of external agents, soon undergoes decomposition

It was long a matter of discussion among the ancient philosophers in regard to the part of the body in which the mind resides. The old Romans supposed the liver to be the seat of anger. — Others have imagine the heart to be the mind's throne. The brain is said now, to be its prime minister, conveying its mandates thro' the efferent nerves to the different muscles causing them by their contraction to flex & extend the limbs &,

other moveable parts of the body, giving rise to the thousand motions of daily life. Different parts of the brain are regarded by some as endowed with different functions. All our knowledge on this point we obtain from comparative anatomy. We know that the animal passions predominate in those individuals whose brain is more full, developed in the back part of the head and in whom the forehead is low & narrow before, retreating very rapidly.

If, on the contrary, the forehead is high, prominent & broad, we expect to find great intellectual force contained therein. The head of an idiot is an example of the former and it may nearly approximate, in form, that of an inferior animal than a human being.

All that we can know of the mind is made manifest by its [illegible]

body. The body is the instrument which the mind uses to accomplish its various ends. In order that a mechanic may work to the best advantage his tools must be in the best condition; in like manner, the mind to accomplish its duties requires that the body be in good condition, or in other words, in health. "A sound mind in a healthy body" is a time honored adage. That the body has an effect on the mind is evident from what has been premised. The mental faculties are not always impaired by disease of body, but sometimes greatly intensified in their action. As an instance (as an instance) of impaired action we have but to notice the movements of a patient in a low fever, and see how slowly the mind performs its various functions. As an illustra-

tion of the effect in the opposite direction we (have but to visit notice the movements of a patient) would cite one of many cases on record. A servant girl of no education was taken violently ill of a fever, and during her flighty moments repeated long passages of Latin, Greek & Hebrew. These passages were taken down and were found to consist of coherent sentences in the different languages above mentioned. Unavailing efforts were made for some time to solve this mistery. At length it was found out that this girl when quite young, had lived in the house of a clergyman, since deceased, and that this gentleman had been in the habit of reporting aloud, long sentences from various Latin, Greek & Hebrew authors. While reading these, after the manner

as the ancient peripatetics, he usually walked up and down a long hall in which this girl was at work. Her memory had been stored with these sentences, and the effect of disease was to rub away the dust, cob-webs & smoke with which time had obscured these traces, and to bring them out in all their distinctness.

We see therefore that the body acts on the mind in disease impairing or intensifying its energies. The converse of this proposition is true, or rather there is a reciprocity of action, for the mind acts upon the body, either to ~~exacerbate~~ induce disease or to restore health to the diseased body.

This fact is no less important to the physician, in devising means for the restoration of his patient, than the physical means just in operation with the same design.

The morbific & even fatal effects which the mind may produce upon the body, hardly need illustration. I will however adduce one instance or more. Certain physicians obtained the consent of the proper authorities to make experiments upon a criminal condemned to death. They wished to ascertain the power of the imagination over the body. He was blindfolded and the medical men proposed in his hearing to allow him to bleed to death by opening one or more veins. There was no vein opened, but water of blood heat was caused to trickle down his arm and to fall gutteration into a vessel beneath. The criminal began to droop & failing gradually at length actually died from the effects of his imagination.

The mind through the imagination can induce disease in almost

any cause. If for instance a person imagines that he has an affection of the heart, he may by continual anxiety of mind cause the subject in dance that very disease. The disposition of one has a great deal to do with his health. A sour disposition will often produce emaciation, while a contented mind is frequently coupled with a healthy body. I would not affirm that all contented persons are robust, or that they all enjoy good health, but we seldom see a quarrelsome or discontented disposition combined with a healthy constitution. Anxiety, grief, dissection and any continued mental exertion, without the proper amount of sleep, greatly impair the health. The mind needs relaxation as well as the body. An old philosopher was found playing with

some boys—; he gave as a reason to some one who expressed some surprise at his conduct, that the mind like a bow would be good for nothing were it kept continually bent.

Sometimes a strong impression made on the nervous system through the mind will restore the health of a patient almost in articulo mortis. This is especially the case if the mental impression be a pleasing one. Anger and a strong desire for revenge have sometimes had the same effect.

The existence or strength of mind are not essential to bodily health however; for idiots & half-wits usually enjoy the best of physical health caeteris paribus, as far as my limited observation goes.

From what has been stated we may draw a few important infer-

ences. The first is that a physician may make great use of this mental influence in a negative manner by removing all causes that tend to disturb the mind of the patient. Another inference is that when the patient lacks confidence in the skill of his physician it will be much more difficult to effect a cure. Nothing tends so much to injure a physician ~~so much~~ in the eyes of his patients or their friends as errors diagnosis or prognosis. In these things he should be guarded & yet not too much so in appearance. So little skill & tact is necessary to avoid both horns of this dilemma. If the physician endeavors thus to inspire his patient & the friends with as much confidence as possible in

his judgment & skill. If the diagnosis & prognosis be difficult let him assure those who seek his aid that it is beyond all human possibility at all times to determine the nature, progress & termination of a disease. By thus dealing candidly, he will have the good wishes & professions of the public in his favor.

Dissertation.

on

Acute Rheumatism

and

Rheumatic Carditis

by

Homer Lee Parsons

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HISTORICAL LIBRARY

That this disease depends on a vitiated state of the blood there can be no possible doubt, but what the materies morbi may be which gives rise to all the train of symptoms [illegible] to be enumerated is not yet fully decided. I shall take the ground that this poison is Lactic acid, and will now proceed to give my reasons for so doing. A certain amount of this acid is necessary in order that the process of digestion may rightly be carried on. Now nature in furnishing the fluids of the digestive apparatus furnished to each a proper outlet so that when they have fulfilled the purpose for which they are required they can readily be expelled from the body. Now the proper outlet of this acid seems to be the skin Therefore anything tending to stop the skin

action must necessarily prove an exciting cause of Rheumatism. No sooner is a person attacked with Rheumatism than we have an increased lactic acid perspiration, if this be stopped the disease is aggravated and protracted. Again this acid perspiration often amounting to a profuse sweat takes place on the part most affected by the disease. Moreover Rheumatic fever often attacks persons labouring under renal disease, where the skin is harsh dry and inactive, that it seems hardly possible in such cases not to connect it with impaired cutaneous action. That is to say, an imperfect elimination of lactic acid. That this disease is a specific one none will deny, therefore it follows that if lactic acid produce it in one instance, lactic acid must

always be present to cause the disease by the same rule that malaria must always be present to produce the specific disease Intermittent fever. or the Sarcoptis Hominis to produce the specific disease Itch.

Acute Rheumatism is a disease of early and middle life, the, persons who suffer from it being usually between the ages of eight and thirty five. The general symptoms of this disease differ somewhat owing to the different temperaments, manner of life and so forth of different patients. Usually however the patient complains some time before calling medical aid of feeling unwell. Has some pain in the back and limbs. He is costive and his countenance has a cadaverous, yellow appearance. He is chilly and experiences slight wandering pains all over his body. As a

general thing he remains in this condition until he has by exposure to cold, wet or a draught of air developed the disease. Until this time the patient has been about attending to his business and thinks his indisposition nothing but a hard cold. Now however the pain which before was slight begins to be severe, he seems unwilling to move or be moved and assumes the recumbent position usually taking at once to his bed. At this stage of the disease he thinks it high time to call medical aid. We find the patient with a high fever. Face usually flushed but may be pale, and covered with a profuse acid perspiration. Countenance anxious. Tongue covered with a moist yellow fur, the edges of which are apt to be of a deep red colour. The pulse is full and bounding

varying from 90 to 140 beats, per minute. The pulse invariably indicating inflammation of a high sthenic grade. Some one or more of the joints will appear red and swollen and be extremely painful. The patient will be unable to move yet extremely restless, afraid to have anyone approach his bed for fear of being moved. The saliva has a decided acid reaction. Urine scanty, high coloured and on standing deposits a sediment resembling brick dust. The mind is clear and usually active. Sometimes headache is present but this is by no means a common occurrence. The above are the most striking characteristic symptoms of the disease. Other symptoms there are when complications are present are present but they will be spoken of when

we come to treat of the various complications which sometimes occur. The local symptoms of Rheumatic fever at first consist of mere wandering pains in the limbs not confined to any particular part, but they soon settle themselves in some one of the large joints, probably the knee. The part where the disease settles soon becomes red and swollen very painful and covered with a profuse acid perspiration.
The joint as before mentioned soon becomes swollen and assumes a round form owing to the gelatinous exudate which effused lymph, it is red and shining and did we not know the disease under which the patient was labouring we should say that suppuration was about to take place. The pain is of a boring gnawing kind

and extends no farther than the the affected limb. The effusion allready spoken of is of two kinds, the most common is that which takes place into the synovial membrane. The other is an effusion into the fibrous tissue surrounding the joint. When the first is present the synovial membrane is distended with fluid bulging out on either side, but the joint does not lose its shape as it does in the other variety. When the effusion takes place into the fibrous tissue the joint is round owing to the filling up of the cavities on either side. The pain is more severe in the synovial variety than when the fibrous tissue is involved. It is also more migratory in the former than in the latter. If the articular inflammation was confined to one joint we should

not consider it so formidable a disease but it is one of the marked characteristics of the disease that its course is extremely migratory. To day we find the patient with the the knee swollen and painful and presenting all the symptoms of an acute articular inflamation, the next time we see him we find perhaps that the disease has wholly left that part and gone to some other part perhaps one of the joints of the upper extremity. Sometimes the disease leaves one joint and immediately appears in another making as it would seem a regular metastasis, at other times we may find the disease appearing in a joint near or far distant from the part affected without any subsidence of the disease in the part first affected. At other times all the joints are simultaneously affected

and with an equal degree of intensity. This disease seems to be regulated in its severity according to the number of joints involved and we consider it a good sign when the disease leaves one joint entirely and does not appear, as the second attack is worse than the first owing probably to the fact that the joint is not in as good condition to resist the action of the disease as it was when first attacked. This disease seems to have periods of intermission, the patient being more free from the disease as far as the pain is concerned in the morning than at any other time, so that it is not uncommon for a patient to be restless all night and towards morning to fall into an easy slumber. The external temperature seems to have no effect on these exacerbations as they occur the

same whether the room is hot or cold I can give no reason or explination as regards these exacerbations but it is well known that nearly all cases of fever have them. The local symptoms do not augment the constitutional symptoms for it is a well known fact that when there has been high febrile symptoms before the appearance of the local inflamation that as soon as the local inflamation is established it tends to diminish the constitutional disturbance. The pulse becomes calmer, countenance less anxious and the patient feels for the time somewhat relieved.
The acid sweat which is always present in this disease was formerly as enfeebling, such however is not the case. In fact this is the course nature takes to rid the system of the disease; And

when the sweating is abundant then should we look for the most favourable termination of the disease. When the patient has been in a low state of health previous to the commencement of the attack then the sweating if it be very profuse may become debilitating, but with this single exception I consider the production of this acid perspiration as exceedingly desirable, and it should be one of our chief endeavours to accomplish this. Statistics of Acute Rheumatism show that those cases which progressed most rapidly to health and left the patient free from any complications were accompanied by these free acid sweats, while those on the contrary that were unaccompanied by these

sweats were more lengthy and left the patient in a less enviable position. Moreover if these sweats be stopped we soon have an augmentation of all the bad symptoms which are not relieved until these sweats return. The duration of the acute stage is from ten days to five weeks the average number of cases terminating in recovery in about three weeks. When the disease begins to subside the tongue begins to clean and loses its deep red colour at the tip and edges. The pulse is less rapid and bounding. The urine loses its high specific gravity and is less highly coloured is more abundant and less loaded with the lithates. The bowels are looser and the stools less dark and offensive

The patient begins to lose that anxiety he has all along manifested and is able to turn himself in bed. The pain in the limbs and the articular inflammation gradually subside and he begins to use his limbs with freedom.

Treatment.

In the treatment of this complaint there is such a diversity of opinion that the old adage that Physicians never agree would seem to be applicable to this disease. By some who have regarded it simply in its articular form without regard to any specific cause or its general symptoms it has been recommended that the antiphlogistic treatment should be fully carried out and they have therefore employed venisection, calomel and other antiphlogistics. Others there are who strongly discard this class of remedies and would

recommend the use of drinking alkalies and in fact there is hardly a class of medicines known that have not at one time or another been vaunted as specifics? On looking them all over and subjecting them to close analysis, I find that no one class is suitable for all cases. The alkaline plan of treatment first brought to the special attention of the medical world by Dr Fuller assistant physician to St George's Hospital in a work on this subject published in England in 1852 is on the whole the plan of treatment best suited to the largest proportion of cases. Its supporters claim that it cures by neutralizing the excess of acid, said acid being the supposed cause of the disease.

~~If~~ on being called to a patient I found him in the first stage of the disease, with a free acid perspiration

Pulse full and bounding. Joints swollen and painful. Tongue furred. Bowels torpid, and the alvine dejections dark colored and [illegible]; in fact he presented the symptoms I have already enumerated in my description at the begining of the disease. I should rely mainly on the alkaline treatment. I should first endeavor to improve the state of the bowels, and for this purpose should give a dose of calo. sufficient to act as a purgative combining it with sufficient opium to prevent purging after one copious evacuation. After this if the secretions from the bowels were natural, or nearly so I should deem it unnecessary to use any more purgatives. but if on the contrary the bowels remained torpid I should deem it necessary to give a sufficient quantity of calme

to keep the bowels in a soluable condition, being cautious however not to carry the calomel to salivation as this is unnecessary and troublesome. While I was thus attending to the state of the digestive organs I should give some one of the alkalies or their salts and for this purpose should probably exhibit either the carbonate of Potash in doses of from fifteen to twentyfive grains or the Rochell salts in doses from ten drachms to one ounce largely diluted with water allowing the patient to drink lemonade or Sedlitz Powders as often as he chose. If the perspiration should by any means become stopped I should have recourse to the warm bath, otherwise I should deem it unnecessary and hurtful. If the stomach (as is sometimes the case) refuses to tolerate the alkaline medicines they are

to be omitted for a time with the exception of the Seidlitz Powders. which is always grateful. This plan of treatment varied to meet the different symptoms as they arise will in the majority of cases be the one to pursue. When the patient has so far recovered as to be convalescent the use of Bark or some other of the vegetable tonics will be found to hasten recovery. If however the least signs of Rheumatism show themselves returning the tonics are to be omitted and we must again have recourse to the former treatment. Juice of citric acid in the form of Lemon juice in doses of from four to eight ounces in the course of twenty four hours. Colchicum and Guiac may be resorted to if any idiosyncracy on the part of the patient prevents the exhibition of alkalies.

As a topical aplication the following is said to be very efficient.

℞

Carbonate Pottassa ℥j
Sweet Oil ℥ij
Rose water ℥iv

The Rose water removes the sour musty smell, this to be applied by means of a flanel cloth wrapped around the part will be found to allevate the pain.

Warm water is also an excellent application, inferior however to the one already mentioned. Col should not be applied in any form as it is apt to produce metastasis to some part less able to bear the ravages of the disease.

Death rarely follows a simple attack of Acute Rheumatism. It is only when we have a complication that the patients life is put in jeopardy

Among these complications there is none more common or more to be feared than Rheumatic Carditis. This is a disease where the membranes of the heart are attacked, owing it is generally believed to a similarity of structure to the membranes of the joints.

The affection of the heart may be primary. That is when it attacks the heart first and afterwards the joints. Or it may be secondary attacking the joints first and afterwards going to the heart by metastasis. But it makes no difference as far as the symptoms or treatment is concerned whether it is a primary or secondary affection. As soon as the heart becomes the seat of disease we have a startling train of symptoms not to be mistaken as denoting an affection of some other part. The patients countenance

becomes distressed and anxious presenting a peculiar pinched appearance. his breathing is hurried and short, he is unwilling to lay on his left side generally lying flat on his back, he complains of intense pain in the praecordial region with pain in the epigastrium which is increased by every attempt to modify his respiration. he can hardly bear an examination of the heart for the pain it gives rise to. The patients mind which is clear in the simple variety is in this disease wandering and often he is furiously maniacal. Often before our attention has been called to the heart the patient becomes delerious when this occurs we know that serious disturbance is taking place somewhere and we should loose no time in finding it out. In such a case we shall —

probably find the disease already commenced its attack on the heart.

This circumstance shows us that we should be continually on our guard during the whole progress of the disease to discover this serious affection as soon as it occurs. Auscultation discovers the [illegible] sound if the Pericardium is diseased. this has been listened to the sound produced by a rasp or file. when the Endocardium is diseased we have a sound which is called the bellows sound. These are the two most prominent and important sounds we obtain by putting our ear to the chest. The patient is unwilling to have us make Percussion but if he was willing I do not very much whether we should obtain any satisfactory results.

Acute Rheumatic Carditis has

commenced the perfect recovery of the patient is extremely doubtful. Yet it is possible that the patient may so far recover as to be in a pretty good state of health and may live for many years even if the disease leaves (as it is apt to do) a thickening of some of the valves or some other permanent lesion. Yet in all cases where the disease has made some considerable progress, our prognosis will be unfavorable. It is then our duty on the first discovery of the disease to have recourse to the most active remedies. In the first place the patient must be made aware of his perilous condition, and the absolute necessity of perfect rest and abstinence without which no treatment will avail. He should be put under the immediate influence

of mercury and for this purpose I should give large doses of Calomel combined with opium pushing the calomel until the patient was salivated. A large blister should be placed on the chest and dressed with mercurial ointment. Leeches should be applied to the region of the head and of the patient's temples. I should take blood from the arm. While these vigorous measures are being taken we should not lose sight of the fact that this is a specific disease but continue to give the Alkaline remedies.

"If happily the disease abates we should not suffer ourselves to lose sight of our patient, but continue to water the disease carefully through and after his convalescence.

The Brain. The Lungs and Pleura and in fact all the viscera may be the seat of Rheumatism. But as these affections are rare compared to the frequency of Rheumatic Carditis And as I have allready brought this paper to a somewhat undue length I will with your kind permission close. I am aware that the subject I have chosen is a difficult one to write upon from the fact that Authority differs very widely in opinion to cause and treatment. Yet I have striven to give a description of the disease as it is seen by me in this country. How well I have succeeded you are to judge.

Homer Lee Parsons

Apoplexy.

Apoplexy "is a disease characterized by sudden loss, more or less complete, of sensation, voluntary motion & consci-ousness, without a suspension of respiration & circulation".

But there are other diseases the symptoms of which approximate to those of apoplexy, as for example some forms of coma seen in malignant fevers, the coma arising from narcotic poisoning & intoxication, it is also sometimes simulated in hysteria & gross mistakes have been made by well informed physicians in diagnosing between these different affections, so that the above definition

is not complete, without mentioning the ultimate cause, which is pressure applied in some manner to some part of the brain.

The pressure must also be applied within the cranium, as otherwise compression of the brain from fracture would be nothing more or less than apoplexy.

The pressure is caused either by congestion, hemorrhage or serous effusion within the cranium, hence some authors divide the disease into three varieties, namely, the simple or nervous the sanguineous & the serous; that there is in reality such distinctions no medical man doubts, but as the diagnosis between them is never positively made out until after death the division is of no practical value.

Symptoms, Course &c.

In the majority of cases there are some premonitory symptoms present, but they are frequently so slight, that they escape the notice of the patient.

Among the premonitory symptoms may be mentioned a feeling of weight in the head, vertigo, headache, drowsiness, perversion of the senses, confusion of thought, defect of memory, flushing of the face, epistaxis, local paralysis &c.

The attack may occur in three different ways

1st The patient is suddenly deprived of consciousness & more or less completely of sensation & voluntary motion & if sitting or standing falls.

The countenance is usualy turgid with blood

The pulse is full, slow, strong & frequently intermittent.

The respiration is slow & stertorous. The power of deglutition is usualy impaired & sometimes completely lost. The bowels are generaly constipated & the urine either is passed involuntarily or accumilates untill the bladder is filled & then dribbles away.

The limbs are usualy motionless, although there is sometimes contraction or rigidity of the muscles; when this occurs it is generaly confined to one side of the body.

This condition of stupor may continue from a few minutes to several days; if however the patient is to recover it seldom lasts but a short time. When the patient begins to recover his consciousness he appears as if astonished, having been unconscious during the fit, he of course has no recollection of what he has passed through.

At this period of the disease the symptoms may all gradually decline and the patient return to a state of health. But much more frequently when the state of stupor passes off, a paralysis of some part of the body is observed to exist, it may be confined to a single muscle or there may be complete hemiplegia. These paralytic symptoms may disappear in a few hours or they may continue for an indefinite length of time.

After recovery from the proper apoplectic symptoms, the mind is apt to be left in a weakened condition; the patients memory is apt to be poor and words are miscallled or one word is substituted for another.

Complete recovery in these cases is a long time in taking place.

When the attack is to end fatally the

apoplectic condition seldom lasts less than three or four hours and it sometimes continues for several days. Prof Wood says "the patient seldom survives the eighth day."

2d.

In the second form of attack the disease usualy commences with sudden & severe pain in the head. The patient becomes pale, frequently vomits and sometimes falls down in a state of syncope, with a cold skin and feeble pulse. The patient usualy rallys from this state in a short time and becomes quite sensible, but soon he begins to grow heavy & forgetful and at last sinks into a state of coma. This form of attack is almost always fatal.

3d

In the third form of attack the patient is suddenly deprived of the

power of motion on one side of the body and frequently of the power of speech also. The patient is conscious and sensible and may rapidly recover or he may soon sink into a state of stupor & die; or he may partially recover and there remain until he dies exhausted. This class of cases are called by some authors pernicious cases.

After recovering from the proper apoplectic symptoms the patient is liable to be attacked with those of encephalitis, resulting from the injury done to the brain. Although the patient may recover from one or two severe attacks he seldom survives the third. Of the milder kind, depending upon congestion, without effusion he may recover many times, but the mind usualy becomes greatly impaired and the patient is often reduced to a deplorable state of mental imbecility.

Anatomical Characters.

Death may occur with all the phenomena of apoplexy, without leaving any lesion in the brain. Death is probaly the result of congestion and the blood-vessels become in some manner emptied of their blood before the brain is examined. In other cases the blood-vessels are found highly congested. Sometimes serum is found effused into the cavity of the arachnoid or into the ventricles.

After death from sanguineous apoplexy, blood is found effused, sometimes between the membranes, at others into the ventricles and not unfrequently into the substance of the brain itself. The blood is sometimes widely extravasated, at others it is enclosed in a cavity. The cavity may be situated in any part of the brain or cerebellum

but the most common seat of effusion is in the substance of, or near the corpora striata or optic thalami. This tendency to hemorrhage at, or near these localities as ascribed by authors to the great vascularity of this part of the encephalon. The quantity of blood effused may vary from a few drops to several ounces. The clot in the cavities, differs very much in appearance in different cases. If death soon follows the attack the blood is found merely coagulated; after a longer interval it becomes more or less absorbed & if life continues long enough it may be entirely absorbed, leaving nothing but a clean cavity. At other times the blood instead of being completely absorbed, becomes organised and unites the sides of the cavity by a sort of false membrane, or it may become encysted in a sac, having the appearance

of a serous membrane.

Causes.

There is a condition of system which constitutes a predisposition to apoplexy, and the causes which give rise to this predisposition are properly called predisposing causes.

The predisposition is often inherited; hence inheritance may be considered as a predisposing cause.

Apoplexy is a disease of advanced life and old age is usualy considered a predisposing cause, in most cases, it undoubtedly is, but I can imagine cases in which it may be an exciting cause.

The same may be said of sedentary habits and high living.

Formerly more than at present a peculiar physical conformation was thought to predispose to apoplexy.

Persons with large heads, short necks, red faces and plethoric appearance

generally were supposed to be more liable to an attack than persons of an opposite conformation, perhaps they are, but the disease occurs in tall, thin, pale faced persons as well as in the plethoric.
Men are more subject to the disease than women.
The exciting causes of this disease are very numerous.
It is admitted that the attack often occurs as the result of previous disease of the brain or its vessels, without any apparent exciting cause.
Instances are not uncommon of persons being attacked during sleep.
At other times an exciting cause is clearly manifest, as when the disease occurs after violent exercise.
Among the most prominent exciting causes may be mentioned, violent exercise, coughing, straining, playing on

mind instruments, straining at stool, stooping, compression of the neck by tight cravats &c. otherwise, alcoholic liquors, intense heat, intense cold and any organic affection which impedes the return of blood from the head, as tumors pressing on the jugular veins &c.

Diagnosis

It is impossible as I mentioned before to distinguish with certainty between the different forms of apoplexy until after death, but we can frequently arrive at a very probable conclusion.

When the attacks soon passes off without leaving any symptoms of paralysis or any mental deficiency we may conclude that the attacks was one of congestion. The congestion may be either active or passive and the two may be distinguished from each other by the appearance of the patient.

If the face is flushed, the pulse full and strong it is probably active; if on the other hand the face is pale and the pulse not stronger than natural the conclusion would be that it was passive congestion.

The diagnosis when serum is effused is more conjecture, simple coma may be the result of the effusion, or paralysis may result, if it produces considerable pressure.

The old notion that a pale face and feeble pulse indicated the effusion of serum has long been exploded. Authors tell us that when palsy precedes and follows the attack, we may conclude that the attack was the result of hemorrhage and that if palsy of all the muscles results we may conclude that the effusion was large. In the majority of cases no doubt this conclusion would be correct

but I suppose the same symptoms may be produced by serous effusion.
When the patient loses his consciousness and recovers it again and then soon sinks into a state of coma with all the symptoms of apoplexy, we can with considerable certainty infer that the attack was hemorrhagic.
The diagnosis between apoplexy and coma resulting from other causes is often extremely difficult.
When the general symptoms of apoplexy are present, together with palsy the inference usually is that the disease is apoplexy; but not always, for palsy is almost always present in cases of cerebral softening.
The two diseases may be associated, the softening may be either a cause or a result of apoplexy.
The coma produced by some of the narcotic poisons closely resembles

apoplexy, as for example, the cases resulting from poisonous doses of opium, stramonium and belladonna.
Extreme intoxication also frequently produces the symptoms of apoplexy.
In the latter cases, smelling of the breath is an important aid in making out the diagnosis.
Sometimes intoxication and apoplexy are combined.
In cases of narcotic poisoning profound coma is not the earliest symptom, there is usualy some little excitement at first and then the progress of the symptoms is gradual.
There is also an absence of palsy.
The circumstances of the case should always be inquired into, whether for example, the patient has been in a situation where he might have been drinking spirituous liquors, whether any cause of suicide existed, whether

any narcotic drug or empty bottle has been found on, or near his person.
The information gained from these questions is often of great importance in establishing a diagnosis.
Death resulting from Bright's disease of the kidney is sometimes confounded with death resulting from apoplexy.
The symptoms of the two diseases bear a close resemblence in many respects, but in most cases, they can with care be distinguished from each other.
In Bright's disease there is never I believe any palsy, the urine if any is secreted, is loaded with albumen.
The patient presents a jaundiced appearance from the retention of bilious matter in the blood and if any stools are passed they are of a white or clay color.
The two diseases are perfectly distinct in their nature and produce death

from distinct and unlike causes, Apoplexy from pressure applied to the brain, Bright's disease from the poison of urea accumulated in the blood.

Prognosis.

But few words need be said upon this part of the subject. It is more favourable in the young than in the aged, it is also more favourable in a first than in a subsequent attack. If a patient recover from one attack, especially of the hemorrhagic variety, others are almost sure to follow. In regard to the ultimate result the prognosis is altogether unfavourable.

Treatment.

The indications of treatment are, to reduce the congestion or arrest the hemorrhage, if it exist, to prevent inflammation and to promote the absorption of fluids, that may have been effused.

If the pulse is strong and full and the face flushed, venesection should be immediately performed and the bleeding continued untill some effect is produced upon the pulse. The bleeding may be repeated if the symptoms demand it. — Bleeding is of service in several ways.

1st. It diminishes the pressure upon the cerebral arteries and tends to prevent rupture, if it has not taken place and if it has to arrest the hemorrhage.

2ly. It lessens the liability to inflammation, resulting from the injury done to the brain and

3ly. It puts the system into the most favorable condition for the absorption of the effused blood or serum.

When the condition of the pulse will not warrant general bleeding,

benefit may result from local bleeding by cups or leeches and if the attack follows the suppression of hemorrhage from the rectum or uterus, leeches should be applied to the anus or vulva.
Purgatives are of great service in this disease, they act not only as depleting but also as revulsive remedies.
Any active purgative may be given if the patient can swallow.
Calomel is indicated when there is any derangement of the liver.
It is safe and proper to give it in all cases, as it will prove useful in counteracting inflammation and in promoting the absorption of any effused blood. If the patient cannot swallow, mercurial frictions should be employed upon the inside of the thigs and arms.
When there is difficulty of swallowing, purgatives may be given by enema

or a drop of croton oil may be applied to the back part of the tongue, once in an hour or two until a through cathartic effect is produced.
If the head is hot, cold should be applied by means of wet cloths or bladders filled with powdered ice.
Hot pediluvia and sinapisms should be employed as revulsives.
If the comatose symptoms do not give way after a few days, Dr Wood recommends that a large blister should be applied to the shaven scalp, to act as a revulsive, to counteract any tendency to inflimation of the membranes of the brain. Some authors recommend emetics; Dr Watson says "it is a ticklish remedy, capable of doing good or harm according as it is well or ill timed". He thinks it may be proper if the attack follows a full meal.
Dr Wood on the other hand thinks they

are never applicable.
She says "if the stomach be full, it will gradually empty itself, even though the contents may be alcoholic; and, in the meantime, we have it in our power by means of the lancet, seat, position &c., to control the force of the excited circulation. Instances are on record of attacks of apoplexy following the act of vomiting. Taking the foregoing testimony and facts into consideration, I conclude that emetics are not proper remedies in this disease.— It is necessary also to attend to the position of the patient; his head should be raised and any thing which may act as a ligature, should be removed from the neck and chest. The apartment should be cool and well ventilated.
In the cases attended with depressed circulation, cold surface, and collapsed rather than turgid countenance, it

may be proper to take blood localy from the back of the neck or temples by means of cups or leeches and to give mild purgatives, together with sinapisms and friction to the extremeties. But if the debility be extreme, resource must be had to stimulants, such as carbonate of ammonia, capsicum, oil of turpentine &c. The arterial stimulants are of course contraindicated. Attention should be paid to the condition of the bladder and the catheter used if necessary.
Upon the restoration of consciousness, great care should be taken to avoid all mental or bodily excitement. The diet at first should be of the very simplest kind; as convalescence advances, the diet should be improved and animal broths, milk &c be allowed; in small quantities at first, but gradualy increased.

In the torpid cases, it may be necessary to give some of the mild forms of animal food, from the first in order to support the patients strength.
If palsy remain, Dr Watson says, "it is to be cured by the virtue of time and the resources of nature", but I imagine that but few of our patients would be satisfied if we gave them up entirely, to be cured by the wonderful powers of the his medicating nature. Electricity and Strychnine the principle remedies for palsy should be given to assist nature in her work.
Prophylactic Treatment.
If a patient has experienced any of the premonitory symptoms or has had an attack of apoplexy, he should as much as possible avoid all the causes of the disease. His diet should consist principally of vegetable and

farinaceous food, meats should be used very moderately. Stimulating drinks, must ~~should~~ not be allowed.
The bowels should be kept regular and if they are inclined to constipation some cathartic must be taken; perhaps the best remedy for irregularity of the bowels is the following: ℞. Pill Hydrargyri
One of these pills given at night, will usually secure an operation in the morning, if not ~~the~~ ft pill ho XX
¼ of a grain of Gamboge will facilitate the operation. Passive exercise should be taken, but active exercise should never be indulged in.

Pulv. Ipecac. aa grs V
" Capsicum grs X
" Aloes ℈i

Strong emotions of the mind should be avoided, the patient should not allow himself to be excited upon any subject, he should "keep cool."
Hard study and severe intellectual employments should be abandoned.

If, however, headache, with flushed face and a strong, full pulse should come on, general or local bleeding or an active purge, or both, would be the proper remedies.

In conclusion I can do no better than to quote from Dr Wood, who says that "it should be the aim of the patient and his medical adviser to maintain in all things, in eating, drinking, exercise, employment, pleasure, and pursuits of every kind, as well as in the state of the bodily functions, a wholesome moderation"

Dissertation
on
Pneumonia

By
Ezra Smith
of Wilbur Ville N. Y.
Candidate for the degree of
Doctor in Medicine

Pneumonia

Definition. Inflamation of the parenchyma or substance of the lungs.

In calling your attention for a few moments to this subject, I do not assume to present any new or rare form of disease, but one which, although not well understood had place in the earliest histories of medicine: And at this advanced period, we have arrived at a more perfect knowledge of this disease by that important assistant to the physician, "the science of Pathological anatomy". And, There is perhaps no disease on which the examinations of the dissecting room have thrown more light and information, than upon this, the inflamation of one member of the great tripod of our existence.

In the earlier histories of the diseases of this organ, it was a very commo

mistake to confound several diseases of an inflamatory character, with Pneumonia and there are those even at the present time who make none or but very little distinction between inflamation of the substance and inflamation of the covering of the lungs, but nevertheless it is a well established fact that the body of an organ may be inflamed and that its serous covering may take on the inflamatory process without in either case the inflamation extending to the adjacent tissues.
This obtains in Pneumonia the same as inflamation of the brain or any organ and its membrane.
'Tis true too that Pneumonia (the inflamation of the substance) is often and perhaps always accompanied by more or less of "Pleurisy" (inflamation of the serous covering) And again there are well marked cases where there are none of the symptoms of pleurisy, but of this I shall speak more

fully when I come to the diagnosis of the disease, as the distinction between the two should be thoroughly understood in order to treat them properly.

This disease appears in all climates but is most common in the colder and temperate Zones. it may also occur at any season of the year yet is most frequent in the spring autumn and winter.

Pneumonia or Pneumonitis as 'tis called is not generally a fatal disease, but some authors say it is productive of more deaths than any other disease, from the fact that patients may die not only from the direct effects of the disease itself, but the system is often left in such a state that other diseases attact and destroy the patient when entirely recovered from the Pneumonial attact. Phthisis is frequently a sequel of this disease, which althong not immediately fatal generally proves so.

Causes. The principal cause of this disease is cold, either long continued (which is most common) or a sudden application of an intense degree. when the powers of the whole system are exhausted by fatigue or from over exertion of the lungs as playing upon wind instruments, long continued speaking or singing. breathing of noxious vapors and external injuries &c &c.

For facilitating the exposition and treatment of this disease Authors generaly divide it into three stages

Thus the 1st stage is that of Engorgement
2d " of Hepatization
3d " " Purulent Softening

Stage 1st Engorgement.

The pathologist tells us that local inflamation is always preceded by congestion, this is true in this inflamation for we have the first stage that of Engorgement or congestion of the lung, in which it is

filled with bloody serum, feels different to the touch and crepitates less under the fingers than does the healthy lung. It feels doughy and less elastic than usual, often retaining the impress of the finger. The color is a dark red and on incising it the bloody serum forming the congestion flows out, the substance of the lung is more easily torn and from its heavy spleen like character this stage is often called the stage of splenization. In this stage the lung although heavier will yet float in water. The mucous membranes of the small bronchia and the air cells, are involved in the inflamation.
Thus in this first stage the lung is changed as regards color, elasticity, weight, firmness of texture and also as to the amount of fluid it contains. There is one condition of the lung, in which there may be congestion simulating the congestion of this stage. That is congestion which takes place after death.

Second Stage Hepatization.

This stage is but a step farther in the progress of the inflamation. The lung in this stage is more completely solidified and is consequently heavier than in the last stage sinking in water as it did not before, of a deeper color and on incision there flows out blood, serum and perhaps a few pus globules, being the first appearance of puriform matter. The texture is still farther altered, being softer and more easily broken down. The air cells are filled up and obliterated and from being filled up with serum and infiltrated blood gives the appearance of granulations. When cut the surface has a variegated appearance.

Third Stage. Purulent Softening.

This is but another step towards the destruction of the lung. It becomes more compact yet

softer and at the same time still heavier it is of a yellowish or gray color, hence often called. Gray Softening. its tissue is thick and substance impervious to air. soft and easily crushed or mashed between the fingers in fine it is infiltrated and filled with purulent matter.

Symptoms

These are at first slight and of a catarrhal character, but soon there is languor and the symptoms of the invasion of a common fever. This is called stage of invasion, 'tis followed by chillings with alternating flushes of heat. after this the fever becomes definate and there is pain in the side affected, Dyspnoea and cough. at first dry without expectoration but as the disease becomes more evident there is the characteristic sputa thrown up or spot by the patient. This is at first white or nearly so. it however changes in color and tenacity from a mixture of

blood, so acts become yellow and sucty.
The Pain is severe dull and deep seated
at the place or immediate locality of the
disease or it sometimes extends over the
cavity of the chest. 'tis greatly agravated
by coughing. The Dyspnoea is sometimes
severe, and distressing, according to the severity
and extent of the disease, somewhat
relieved by the sitting posture. more prominent
in inflamation of upper lobes, often rendering
the patient unconscious of anything save
the trouble of breathing, his countenance
is very expressive of his suffering and
the air seems only to enter his lungs
a very little way which in fact is the case.
Expectoration comes on about the third
day, when the cough generally becomes
easier and not as harsh. Delirium may
attend any stage, is most common at
night and is the result of non oxygenated
blood in the circulation. if this symptom
is present in any great degree it shows

the disease is both severe and extensive and consequently making the case mor fatal in its tendency. The Pulse varies in the different stages. if small and hard it shows the inflamation to be of the sthenic form and will bear free venesection with great benefit Abcess of the lung is rare. This disease may terminate in gangrene of the lung and the sputa will be characteristic of it. this also is very rare.

Diagnosis is very easy. it is only liable to be mistaken for Pleurisy and from this it is to be distinguished by the pulse being hard resisting and the pain more acute and lancinating. The cough small short and dry not occuring in fits nor attended by expectoration The surface of the chest is tender and there may be fullness between the ribs. Pleurisy unlike Pneumonia most frequently ends in effusion of serum in the

Pleural cavities. Moreover in the diagnosis of this disease we bring to our aid the science of Auscultation and Percussion. In the first stage of the inflamation the sound on percussion is a very slight dulness. this is not at first very perceptible but as the disease advances it becomes more evident and in the second and third stages it is so marked that we can easily define the extent of inflamation. Auscultation tells us to what extent the aircells and bronchial tubes are involved. There is more or less mucous and serum effused in them according to the extent of inflamatione and the air passing through these moistened tubes produces sounds termed Ronchus. It is slight at first and is called Crepitant Ronchus, this sound becomes lost in the second stage and Bronchial respiration is heard. as then the air-cells are impervious, we have also

Bronchophony the sound of the voice as through a tube as is the case when the air enters the tubes of the Bronchi and not the air cells. when the whole lung is solidified there is no sounds of respiration, all is silent and all dull on percussion. On the opposite side will be heard the sound lung laboring to perform the work of the diseased portion and here we have puerile respiration. If the patient is to recover the symptoms retrograde from Bronchial respiration to the Ronchus and at last to healthy murmurs of respiration and finely to perfect health, but if the lung proceeds to the third stage before recovery takes place then the sound will be a mucus purulent Ronchus a coarser and larger Ronchus, and a bubbling sound owing to the character of the contained fluid.

Prognosis. is favorable or not so, according to the tendency of the disease. if there is a tendency to rapid hepatization with livid countenance high and increasing fever great Dyspnoea and early exhaustion, then the prognosis is unfavorable but if the fever is moderate, Dyspnoea slight, pain not severe, cough loose and expectoration free and above all if the patient is tractable and intelligent then the case is very favorable. Complications are few most common is pleurisy.

There is sometimes a particular character to the fever, as it may be typhoid, Billious &c constituting Typhoid & Billious Pneumonia. Treatment

The treatment is simple, and, as we are to be governed by the indications in the treatment of all diseases. The same rule is good here also. We know in most fevers there is an increased amount of blood

passing through the heart and lungs, and if there is any defect in either organ whereby its capacity is lessened, we naturally look to the method of relief. Now there are two plans indicated here for the treatment. One is to reduce the quantity of blood sent to the lung, and the other is to increase the capacity or in other words remove the inflamatory state of the lung. We reduce the amount of blood by venesection, cappings over the diseased side of the chest. This not only reduces the quanty of fluids in the system but also it relieves congestion to a certain extent, for this reason we employ blood letting first. nex we use Tartar emetic or More professionaly Tartarized antimony and potasa this may be given in small doses as gr ¼ every hour and gradually increasing the dose as the patient comes to tolerate it and this medicine is best given in solution and

with a small quantity of Opium, that it may not disturb the bowels which should be freely evacuated by a mercurial cathartic early in the disease. When Antimony is irritating to the bowels then mercurials are to be used, Calomel in small repeated doses combined with Opiates. The gums are to be slightly irritated but full salivation should be avoided. If Diarrhoea comes on in the later stages of the disease it should be moderated but not checked controlled rather than overcome.
This mode of treatment employed with that judgement necessary to all successful practitioners, will in the majority of cases completely subdue the disease.
A few words more and I have done. There is one symptom (if I may so call it) not generally noticed by authors. I mean that time in diseases called the crisis. that point at which the symptoms have reached their greatest degree of intensity

This takes place exactly five full days from the chill or rigor of the invasion when the Dyspnoea is increased, expectoration difficult and in fact an agravation of all the symptoms. 'tis then the patient most needs assistance, for there is a want of due aeration of the blood, with the consequent tendency to coma. and here the patients strength is to be supported by diffusable stimulants and the patient told to take full, free inspirations and thus the crisis may be safely passed and convalescence be soon entered upon. If this crisis be (as some state) severe, it is highly important for the physician to make a visit at that time to the afflicted patient. In the Typhoid variety it is necessary to support the strength of the patient and be governed to some extent by the rules for the treatment of Typhoid fever.

Causes of Error in Medicine.

Some of the Causes and Sources of Error in Medicine are. 1st The use of improper Language is a Source of Error. The progress of medical knowledge has doubtless been aided very much by the use of certain terms and phrases, borrowed from the ancient and modern languages, and particularly from the ancient Latin and Greek, and the modern French and German. But this advantage, however desirable, has often been the source of very great error. But the idea which we wish to urge in speaking of the use of improper language is, that physicians themselves in treating upon subjects that are far from being difficult or obscure, not

unfrequently make use of language which is unintelligible to most persons, and whether their own views are correct or incorrect, the consequence is, that people are led into error. On the other hand, when they attempt to treat upon subjects confessedly difficult and obscure, the language they use is alike calculated to confound and mislead the people. We are pleased to recognize but few in the profession, who, in so doing, appear to be actuated by any evil design, whereas, such is the very language preferred by the quack in order to accomplish his destructive purposes. Nothing is more manifest than that the description of the symptoms of disease, to be of any great use, should be couched in the plainest and most familiar language, instead of that labored, involved and careless phraseology that we often meet with.

The states of the pulse, for instance, are often described in the use of language so highly figurative as to become a source of very great error.

We hear of its being hard and soft, and wiry and corded, and vibratile, and what not. The same remark may also be made concerning a description of the appearances of the tongue and of the various secretions of the human system. But there is little reason to look for anything better in this matter until physicians in general feel it their duty to keep a more intelligible and ~~[illegible]~~ record of the various cases that occur in their practice.

2nd. An improper regard to the authority of professors of medicine is supposed to be a source of error. It is necessary that authority should have weight

This is not denied, but it should be well remembered that the necessity always grows out of that truth and matter of fact, that are the basis of all just authority. It is also to be remembered, that the evil complained of, always arises from a tame submission to a mere say so, without making proper inquiry into the truth or fact of what is advanced.

There are people, old and young, who are manifestly incapacitated to judge for themselves in matters of importance, and whose fickleness is so proverbial, that we do not wonder at their yielding up their judgements entirely, to those who profess to teach or guide them. With these persons an over quantity of pride and vanity, arrogance and self sufficiency, will invariably pass current without impairing the authority

of the teacher at all. and consequently we must expect that both teacher and hearer will fall into the ditch.

Truth never was. and never will be the natural or genuine offspring of an arrogant. boastful and hasty spirit. And this is one capital reason why quackery has so little truth to boast of. The evil complained of above is not really so expensive at this present time as some suppose. It is remarked of those men in general. whose minds are so susceptible of imbibing the peculiar doctrine or dogmas of their professors. and of following them implicitly. that very soon after they. have quit the school. and mingled with the world. their reverence to the particular theories and dogmas begins to be gradually weakened. and they uniformly find themselves thrown on their own observation, and upon matters of fact.

So it is with the quack. He is never candid, nor is he honest. Instead of submitting to facts as they occur, and operate against his theory, he ingeniously contrives to make every fact bend to his theory.

3dly. The adverse and contradictory opinions of Professors are considered a source of Error. As long as the subject matter in dispute remains undecided, and the disputants are disposed to contradict each other with vehemence, those who espouse either side will most certainly go to an extream and fall into error — The heat of passion and the force of prejudice, on the part of both teacher and follower, will contribute largely towards confirming and riveting them in the belief of error.

Whatever advantage may arise from conversations of this sort. there is little little doubt but that some very great errors will be the consequence. and nothing but a return to that candor which is essential to a ~~thorough~~ thorough examination of both sides of the question. will be sufficient to retrieve the disputants from error. But candor is not a virtue peculiar to quacks The quack disdains to examin both sides of the question. The opinions or principles he embraces at the commencement of his career. seem to be coeval with his existence. and the tenacity he manifests is as universal as it is lasting and wonderful. When by the way of alarm or from some other cause. he is induced to give up the practice. he still adheres to his principles.

Fashion, at the present day and in our own country, seems to exercise but a very limited sway over practitioners of any note, and although she may cause some few among them to fall into error, yet she thinks that these few soon discover their mistake and retrace their steps. But the quack sees no danger, and worships the goddess without reserve. Indeed it is the wish and prayer of every quack, that the nostrums of quackery may become so fashionable and common, as to root out all other means, and medicines, and that the profession itself may become so unfashionable and unbecoming as to retire and vanish away.

5th. Under this Head I shall barely mention two or three Subjects that are the Sources of considerable Error at the present day.

The manner in which the dispute about malaria is conducted, seems calculated to confirm the disputants in a particular belief in relation to marsh poison.— Many physicians enter upon this subject with great ardor, and from the best of motives, but for want of candor, and for want of industry in the collection or induction of facts, they leave it as much in the dark as they happen to find it. One man bends his whole strength towards establishing the point, that malaria arise altogether from vegetable decomposition, and denies that there is any animal matter concerned in it. Another is equally urgent for the fact, that there is no marsh poison generated

or received without animal decomposition or putrifaction.

Again, some physicians there are, though not many, at the present day who have embraced the notion that there is no such thing, strictly speaking as an idiopathic or primary disease, and consequently that all diseases are symptomatic. There are those who deny that there is any such thing as a self limited disease, and seem inclined to call in question the use of the term, but so long as they persist in this or the former belief, they must inevitably fall into errors of a serious kind. The quack in order to be consistent, must of course deny that there are any self limited diseases, because he boasts of the honor of controlling or cutting short all diseases, and that with simple remedies. But the crime or fault of using a complication of remedies can

no more be chargeable at the present day, upon the well educated than upon the quack. It is often remarked that physicians, as they advance in life and grow old in practice are inclined more and more to simplify their remedies.

It is said that errors have arisen from attempts to explain the phenomena of the human system by subjects with which the mind is familiar. I think that there is little danger from this quarter.

A professed physician in this country is seldom a profound mathematician, for instance, and is not at all likely likely to introduce much of that science into his medical inquiries. If anything we should say that mathematical knowledge, so far as it has been

applied to the subject has proved a handmaid to medical inquiries, Natural philosophy and chemistry have never failed to contribute their share in the same respect.

It may have been thought that the use of galvanism in medicine may have led some to believe that the nervous energy and the galvanic are precisely the same. But we are sure that there is nothing wanting in this case but a little of the abovementioned excellent quality of candor, in order to give the tremendous battery its proper place, and determine all its just demands,

Lower Diagonals of the
Bow of Keel.

One of the chief characteristics of medical science in [illegible]

-mental "Aphorisms" few age have passed without being marked by some striking incident favorable to the advancement of the "Healing Art". The generally limited this advancement was slow and urgent compared to other departments of knowledge, for the simple reason actually knew little of the varied truths pertaining to medicine that have since been developed.

[illegible]

-ght, the physiology & the mysteries of blood vessels [illegible] that comprise the wonderful machinery of man, neither had chemistry made known the composition or decomposition of mineral substances, [illegible]

[illegible]

the value and importance of the material effluvia which so abundantly exist in the vegetable kingdom [illegible]

[illegible] perfection, step, and [illegible] as far as possible, to the cure or amelioration [illegible] no line or department of medical

research has in my opinion, contributed more to the es-
[illegible]
[illegible] C[illegible]
this in a great measure that distinguishes in his hem-
isphere, the modern from the ancient Physician.
A blind devotion to theory long cherished by the
early writers on medicine, but nearly exploded by
[illegible]
rational knowledge of the seat and nature of disease
as being the surest and safest landmarks for
the Medical practitioner. At one time there were
[illegible] minds about the seat of fever, or the ultim-
ate cause of inflamation, as "stars in the skies", but no
[illegible] treatment, [illegible]
[illegible] and [illegible]
nexion with a good Diagnosis. What has simplified
the mangement of fevers, more than the knowledge that
they are all more or less governed by the same general
laws. What has perfected the treatment of thoracic
[illegible]
[illegible], or what has reduced the practice of surgery

to certain fixed principles more than the diagnostic study of Surgical Anatomy. It is not enough [illegible] the patient has merely disease of the Chest. It is not enough that the parenchyma of the Lungs is simply inflamed or the Heart palpitates. It is not enough that the surgeon knows a fracture, or feels a tumor, but the kind, and degree, are to be pointed out. Each tissue must be thoroughly examined and each group of symptoms must stand or fall by themselves in order to make up the difference, between this, or that, morbid phenomena.

The question may be asked what is Diagnosis: [illegible] Centuries to repeat itself in certain forms and with certain [illegible] of the breast, precedes the affection in the tissues. Scarlatina with sore throat with inflamation of the fauces, or an affection of the skin. Croup is accompanied with

stridulous breathing — fevers with suppressed secretions, &c — so that Nature herself seems to be under a sort of [illegible]

This is true of Pathology as well as Physiology and this it gives to Diagnosis a degree of certainty and definiteness, that makes its study all important to the young Physician. To form a correct Diagnosis, thus making it the basis of our medication it is proper, and even necessary, that some method or [illegible] [illegible] it [illegible] [illegible] toms, and to learn it well, I would propose and adopt an arrangement or classification something like the following.

The 1st should comprehend the History of Diseases — The 2d their morbid symptoms.

The 3d the good or bad effects of remedies.

A classification of this kind will naturally facilitate [illegible]

When called to see a patient labouring under any [illegible] [illegible] to [illegible] [illegible] with the History of his case — [illegible]

general surface, of the glands & secretions generally, the morbid states of the functions of the Nervous System of respiration, of the Heart & Arteries, the morbid affections of the Physical condition of the Brain, Thorax and Abdomen, and the functional disturbance of the pulmonary organs, Alimentary Canal, Urinary Organs &c — These should all be studied individually and collectively and be arraigned at the bar of our judgement before rendering [illegible] as to the [illegible] indica-tion sought after &c — It is not so much in a [illegible] look at the patient, [illegible] of the [illegible] that determines the diagnosis, [illegible] but [illegible] com-bined — For instance a patient is under examina-tion, and the action of the heart is normal, tongue [illegible] func-tions healthy &c, but a careful inquiry into his or her parental proclivities shows hereditary [illegible] the touch of percussion giving dullness [illegible] lung and Auscultation showing abse-

ence of respiratory murmur", these effect probable
if not positive signs of abscess or incipient Phthisis. Again the medical adviser is hurriedly
called to see a child laboring under excessive bowels,
discharges are bilious, head hot, skin dry, tongue
natural, but on further inquiry, the Mother happens
to recollect that the child, the day previous had
a severe fall, and this one fact, in the history of the
case, may determine the opinion in favor of cerebral
concussion. The third class of [illegible]

[illegible] place in connexion with the operation of medicine.
The positive or negative effect of a remedy is of
[illegible] the
[illegible] of its treatment. A person is under
[illegible] "
[illegible]. He is examined to ascertain if the Lungs
may not be [illegible]
if the [illegible] remedies to obviate this tendency will be
[illegible] they promise no relief, the affection

will be treated as a local one of the Bronchia, and if treatment is again without success, this hypothesis is abandoned, and a new one formed perhaps in favor of the lodgment of a foreign substance in the Larynx. Again a patient is attacked with some fever [illegible] is relieved, is sent forth. A brief period is prescribed and soon it's effect by the [illegible] and the effect of the [illegible] has [illegible] not, and a second [illegible] of Anodyne. Of an alarming case of Croup is not mitigated by Opium and [illegible] [illegible] is [illegible] to be severe in this case, but [illegible] the remedies used, warns us to resort at once to a surer and more effective remedy found in the dry and local administration of Calomel, [illegible] practiced and recommended by a [illegible] of this Institution. Thus it is in different cases time, often supplies additional evidence through the effect of medicine, which serves to complete the indications of treatment and helps to get nearer the truth in Diagnosis. We cannot be too familiar

with the language of disease – Symptoms to a certain extent are facts, and thus become standards in detecting morbid affections – Long ago it was regarded that, "Heat, Pain, Redness, and Swelling" constituted the essence of Inflammation. These never deceive the medical observer because they are [illegible] by common [illegible] [illegible]. But a few [illegible] in [illegible] Diagnosis will convince any one, that there is no one symptom, nor two, or three, symptoms, that are sufficient in themselves to [illegible] the [illegible] disease, without comparing together all the symptoms positive or negative that come under observation.

Premising a Knowledge of Anatomy and Physiology then, the study of Diagnostics is of the first and highest importance to the young Physician. [illegible] [illegible] him against a dangerous routine so rife among physicians of the [illegible] [illegible] his [illegible], [illegible], [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] practice.

[illegible]

[illegible] collections are all in accordance with a good, co-
[illegible]

will naturally suggest his constitutional peculiarities, his Temperament, his Idiosyncracy, his previous or present habits, his parentage, his residence in Madison [illegible] or his liability to frequent attacks. These, we have a greater or less influence in determining the morbid action in question, and cannot safely be overlooked [illegible] especially by the [illegible]

Temperament may not govern our decision in a given case of acute inflamation, but after our Diagnosis [illegible] cation of the appropriate remedy. A person of [illegible] or Sanguine Temperament. The same principles obtains in other Temperaments or Constitutions.

The second head or Classification of Symptoms occupies a wider range and larger scope of investigation [illegible] brehends and brings into view all the [illegible] ances of the patient, his Countenance, his [illegible], [illegible] gue, the morbid condition of the

THE CIRCULATION
OF THE BLOOD.

The circulation of the blood in man is divided into the systemic, and the pulmonic; The portal system has peculiarities which might justify a third division.

The circulation in general. has for its object; the distribution to every part of the body. of nutritive matter. for its growth and renovation, and for carrying out of the system. the waste matter. which is taken up and mixed with the blood. to be removed by the excreteing organs; Also that the oxygen which is recieved in the lungs and combines with the blood. may impart vitality to the nerva muscular apparatus.

It is nescessary for the life of the system that the blood should be in continual motion. which in man is chiefly dependant on

the heart's action. assisted by the blood vessels.

In the lowest classes of organised beings: the nutriment is brought in immediate contact with all the organs, which take up what is required and part with what is excrementitious: Having no use for a circulating system, they do not possess any.

The Heart sends the blood along the arteries, dilating, to recieve it and contracting, to force its passage through the vessels. The power of dilating, and contracting, belongs exclusively to muscular fibre.

Muscular fibre, are of two kinds, the non-striated and the striated. The nonstriated are smooth flattened bands, generally collected into fasciculi, in which they lie parallel to each other, but the fasciculi themselves, often cross each other and interlace. As a general rule they have no fixed point of attachment, but form continual investments around cavities, lined by mucous, or other membranes, as the alimentary canal, the bladder, the vascular trunks &c. They are for the most part supplied by nerves from the sympathetic system, being therfore involuntary, and when a fasciculus is irritated, it will contract slower and finally to a greater extent, and its relaxation will be less speedy than the striated fibre, when simularly irritated. Before relaxation the neighbouring fasciculi, will contract; they.

in like manner causing their neighbours to act in the same way. So a single prick of the scalpel, to the intestinal canal, will cause a succession of contractions and relaxations transmitted in the direction of its length. The same is true of the middle coat of the arteries

The striated muscular fibre is marked by transverse striæ, and is attached at its extremity to white fibrous tissue which adheres to bone, or whatever it is intended to move. When a portion of striated muscular fibre is irritated, the fasciculas of fibres which is touched, will contract, and that only. ~~it will~~ soon relax without communicateing its movements to any other.

The muscular structure of the heart, is peculiar in having the arrangement of the nonstriated muscles, in the interlacement of its fasciculi and the absence of fixed points of attachment: with the structure of the striated; The fibres are however smaller than those of the voluntary muscles; the striæ are less strongly marked and are less regular.

The first appearance of the heart of the chick is about the twenty seventh hour of incubation. The rhythmical contractions become very manifest and regular, towards the thirty sixth hour. When at this time it is composed of nothing more than elementary cells embedded in a granular blastema. Towards the end of the fourth day the rudimentary muscular fibres

are seen partly cylindrical in shape. in the midst of a mass of globular particles. before the end of empryonic life these particles, or cells. disappear, the cylinders approach one another and are grouped into fasciculi.

That the action of the heart is not dependant on the nerves, is shown by its contractions, on the application of stimuli. when seperated from the body. for some time. However there can be no doubt that the nervous system controls its action. that it may be increased or diminished according to the wants of the system.

From what has been observed in the heart of the chick, in the rhythmical motions of its cells. It would seem that the action of the heart depends on the peculiar vital endowments of the muscular fibre which causes it to act as long as it retains its integrity. as cilliary movement is characteristic of that class of fibres.

The heart will continue to contract and relax alternately for a long time, after all perceptible stimuli have ceased to act upon it. and such is the case more particularly in cold blooded animals, when not only the entire heart but even seperated portions. will continue to contract and relax with great regularity for a long time; as the auricle, when cut

off from the auriculo-ventricular rings, and the apex, when seperated from the rest of the ventricle,

In order that the heart, in common with other muscles would be susceptible of stimulation it seems nesecessary that it be supplied with oxygen, which it recieves in the blood.

The movements of the heart follow each other with great regularity, both auricles, contracting, and also dilating, simultanously, and both ventricles doing the same in their turn. The elevation of the arteries, or what is called the pulse corresponds with the contraction of the ventricles, while the dilatation of the ventricles occur when the arteries collapse. The contraction of the ventricle with that of the Auricle, alternate with each other; There being however a period when the auricles and ventricles of both sides are dilating together; For when the ventricle has finished contracting, the auricle is not yet full, but the blood keeps pouring into it, some at the same time passing into the ventricle, untill about half the time expires, that the ventricle takes to dilate; the auricle is then full and immediately contracts.

The period that intervenes from one pulsation to the next, is nearly equally divided between the systole and diastole of the ventricles, while in the auricles a little over one eight of

the time is taken up during the systole, and the remainder in the diastole. In the systole of the ventricles, the curved fibres which constitute the apex of the heart, are manifest, and the whole organ has a more globular appearance. The apex is drawn up towards the base, describing a spiral curve from right to left and from behind forwards, causing the impulse of the heart against the parietes of the thorax. This cannot be caused by the tendency of the aorta to straighten itself, as the lower part of the heart will tilt forward when the apex is cut off, and consequently, the tension of the blood cannot be the cause.

When two muscles originate from two points and are inserted into the same place, if they both contract at the same time, the part which is moved, will be drawn in the diagonal of the two muscles. From this fact Prof. Charles Hooker was lead to think that: as the muscles forming the anterior portion of the heart are longer, than those of the posterior and a line drawn from the centre of the base, to the apex will pass obliquely downwards and forwards. By the muscular fibres contracting, the heart will be shortened and as the base is fixed, the apex will be drawn upwards, striking against the walls of the chest.

The diastole of the ventricle is not simply a relaxation

but is the effect of power. so that the hand closed upon it. will be forced open during the diastole,

The Heart is situated. in the thorax. more to the left than to the right side. The sternum in front. the vertebra behind; the lungs on either side. and the tendonous portion of the diaphram below. It is somewhat. conical in shape. but flattened below. The base is towards the vertebra. looking obliquely towards the right side. with the apex about the junction of the fifth rib with its cartilage. It is covered by a serous membrane. the pericardium. weighs about. six ounces, Its lenght from the apex to the base. about five and a half inches. four of which are taken up by the ventricles. Its base three and a half inches in diameter. There are four cavities in the heart:- two auricles and two ventricles. The auricles form its base, the ventricles its body and the left ventricle its apex. The interior is lined by a serous membrane.

The right auricle is about a line in thickness. it is divided into its sinus, and appendix. In the upper part of the sinus is found. the opening for the superior cava. which brings. the blood from the upper part of the body.

The inferior cava returns the blood from the lower part of

the body. and opens into the lower and posterior wall.

Between the openings of the veins is seen a projection. the Tuberculum Lowerii

The coronary vein which returns the blood from the substance of the heart. opens into the auricle, between the inferior cava and the auriculo ventricular opening, covered by the coronary valve.

The Eustachian valve is a fold of membrane, with some muscular fibres. it is generally connected with the coronary valve.

In the septum dividing the auricles is the fossa ovalis, surrounded by the annulas ovalis. It occupies the place of the foramen ovalis of the foetus.

The Foramini Thebesii, are minute openings into the interior of both the auricles and ventricles, transmitting venous blood from the structure of the heart.

From the upper part of the sinus, The Appendix Auricularis hangs loose; In which are small muscular columns, arranged parallel to each other called musculi Pectinati.

The Auriculo-ventricular opening is about an inch in diameter. for the passage of blood into the ventricle.

The right ventricle is triangular in form, the wall is about three lines in thickness. The internal surface is covered by muscular columns, (carnea columnae) interlaced, in almost every direction.

The Auriculo-ventricular opening is surrounded by a fibrous ring. the lining membrane in folds, proceeds from this ring and forms

the Tricuspid valve, whose edges, form a network, with the adjoining ends of the chordæ tendineæ; they are the tendons of the carneæ columneæ, and keep the valves always expanded.

The opening of the pulmonary artery, is on the left side of the right ventricle, anteriorly: At its commencement, it has the semilunar valves three in number, formed by a folding of the lining membrane, with a thin layer of fibrous tissue between. Their convex borders are attached to the artery, with their concave edges loose, directed upwards in the course of the ~~artery~~ vessel. In the centre of the margin of each valve is a small fibro-cartilaginous, tubercle: the Corpus Aranti.

Between the semilunar valves and the artery, are three pouches The sinuses of valsalva. simular ones are formed, at the commencement, of the aorta, being somewhat larger.

The left auricle is smaller and its walls thicker than the right, the appendix is narrower. The pulmonary veins, four in number, two from the right, and two from the left lung, enter into the corresponding sides of the auricle, There is a communication to the left ventricle by the auriculo-ventricular opening.

The left ventricle is conical in shape, its walls are about seven lines in thickness, Its valves, the Mitral valves are.

arranged like those of the right side with this differance. that they are thicker. and consist of two segments; the larger placed between the auriculo-ventricular opening and the commencement of the aorta. acting as a valve to that vessel, while the ven-ventricle is filling.

The commencement of the aorta. has three semilunar valves. like those of the pulmonary artery.

The venous blood. from the ascending and decending cava enters the right auricle, during its diastole. while a part of it flows into the right ventricle. during the early portion of its diastole. when the auricle is full it contracts. discharging its contents through the tricuspid valves. into the right ventricle which it distends. The contractions of the walls of the veins. and the valves with which they are furnished. prevent the regurgitation of the blood into them. during the auricular contraction. And as the valves do not close completely a small reflux takes place. During the contraction of the right ventricle. the carneæ columneæ contract also. and by streching the chordeæ tendineæ. the tricuspid valves are drawn into the axis of the opening. the blood gets behind them and the flaps are forced together. so as to close the passage. being restrained by the tendons. they do not fall suddenly together. as the semilunar valves

do. for which reason, they produce no such sound in closeing.

The systole of the ventricle sends the blood through the semilunar valves, which are then closed completely, so as to prevent its return. After circulating through the lungs it returns as arterial blood through the pulmonary veins into the left auricle. It then passes through the mitral valve into the left ventricle, and thence into the aorta by passing through the semilunar valves as in the right side. From the aorta it is distributed to every part of the body

During the natural movements of the heart, two sounds are heard, corresponding with one pulsation, after which there is a period of silence. The sound that follows this interval is known as the first sound, and the next, as the second sound.

The first sound is dull and prolonged, and is synchronous with the impulse of the heart and the pulse. It occurs during the ventricular systole.

The second sound is sharp and short, and occurs during the first part of the ventricular diastole: it is caused by the closeing of the semilunar valves; If the valves are kept open allowing a reflux of blood no sound is heard.

The first sound is due partly to the impulse of the heart though not entirely, as it is heard, but not as loud, when the

heart is contracting out of the body. It is augmented by the tention of the auriculo-ventricular valves. by the rush of blood. through the narrow opening of the arterial trunks. and lastly by the friction of the particles of the blood against the rough sides of the interior of the ventricle. and against each other. Yet all together. do not produce the entire sound. as a sound is heard when the heart is completely empty of blood.

The abnormal sounds of the heart are not additions to, but modifications of the natural sounds.

There are about two ounces of blood, sent, by each stroke of the heart, into the arteries

The number of beats in a given time, varies much, according to age, sex. muscular exertion. and position, In the foetus in utero, the heart beats from 140 to 150. strokes in a minute. The new born infant ten beats less: At the third year, about 100 beats per minute, 80 beats at 21 years of age. and in old age about 75. beats,

In Females, the pulse is about ten beats in a minute more frequent than males. at the same age.

Muscular exertion. and the erect position, mental excitement and digestion. will also raise the pulse.

The Arteries. are cylindrical, firm. elastic. canals. of a

yellowish white colour. composed of three coats. The external of denee cellular tissue: The middle fibrous having annular muscular fibre which are contractile, on the outside of this is a layer of yellow elastic tissue to which the walls owe their elasticity. The internal coat is a serous membrane.

The rate of movement of the blood in the arteries. from experiments on the lower animals. has been ascertained in mammals to average twelve inches in a second. being quicker as the artery is nearer the heart. and as the volumn of blood is increased.

The arteries terminate in capillaries. and the veins commence from them: The arterial and venous capillaries are not continuous. but lie side by side. The blood passing through the sides of the former into those of the latter.

The blood is sent into the capillaries by the power of the heart: while its rate of movement in those vessels is due to an indipendant power. which they possess. causing the blood to pass through them. with more or less swiftness according to their activity.

The coats of the veins are much like those of the arteries Being more elastic, as the middle coat is more like the areolar tissue of the skin than true elastic tissue. And possessing

very few muscular fibres, for which reason, they are less contractile. They contain about three times as much blood as the arteries consequently the rate of movement of the blood through them is about 1/3 of what it is in the arteries.

The veins are furnished with valves, made up of loose folds of the lining membrane containing contractile fibres between them. In the small veins they are single: in the larger ones there are two, and in a few instances three. Their object is to prevent a reflux of blood. The veins of the brain of the abdominal viscera, and those of the lungs have no valves. The movement of blood through the veins is owe-ing to the power of the heart and arteries, assisted by the pressure of the muscles upon their trunks.

The pulmonic circulation is peculiar in this:- the venous blood is sent from the heart, in a vessel, which is arterial in its structure, and is returned as arterial blood in veins.

In the Portal circulation, the portal vein divides like an artery, and distributes its blood to every part of the liver for the secretion of bile.

In the foetus, the blood is brought from the placenta, by the umbilical vein, which enters at the umbilicus. Part of the blood passes ~~throu~~ through the ductus venosus into, into the ascending

cava. and the remainder. after circulating through the liver, in the vena portæ. reaches the ascending cava, in the hepatic vein. being purified by the placenta and liver. it enters the right auricle. directed by the Eustachian valve, it passe into the left auricle. passin through the foramen ovale. it next passes into the left ventricle. which sends it through the ascending aorta. and is distributed to the upper part of the body. The blood which is in the right ventricle is at the same time sent into pulmonary artery. a small portion going to the lungs. while the greater part, passes through the ductus arteriosus. into the decending aorta. The aorta divides into the common illiacs. which again divide into internal and external illiacs. The internal Iliac gives off the hypogastric artery which passes up. one at each side of the bladder. to the umbilicus, where they form a part of the umbilical cord. They are called the umbilical arteries. and return. the blood to the placenta.

Not having been sufficiently long conversant with the practice of Medicine to do more than familiarize myself with the teachings of others upon the subject, I do not consider myself qualified to develop many new ideas; especially such as would be instructive to the body of men now before me. I have therefore chosen for my theme a topic interesting alike to the old practitioner as to the young, — one vitally important to all, and which, I trust, may at least suggest instructive thoughts to everyone. It is, —

The prevalent tendency to Superficiality in the Medical Profession.

This superficiality is seen, first of all, in intellectual habits. One of the prominent faults of the age, in Medicine, as in other departments of science, is a passion for the acquisition of knowledge as consisting in the mere accumulation of facts, with little regard to thorough mental culture, and the sound, healthy development of thought. Knowledge is not cultivation, and it is not reflection; neither can it supply the place

of either. It really consists in the simple perceptive power of the mind, assisted, perhaps, by a certain retentive faculty. Medical science has advanced far in the acquisition of ideas, and practical ideas too; but medical men as a body and as individuals have made too little progress in the independent development of these ideas to their ultimate results. Every man's mind, developed by a proper system of culture, should elicit from his every-day practice conclusions which would be of value to himself and the world. But this is far from being the true state of the case. The men are very few in number, compared with the vast body of the profession, who have derived from the contact of their minds with the world valuable conclusions which have stood the tests of time and experience. True, theories have been proposed whose name is legion; and herein we find a second evidence of superficiality.

Theories have been multiplied almost indefinitely. Many of them have won a temporary fame for their authors; yet how few have outlived their authors. Most of them were the offspring merely of a superficial

knowledge, and not of a healthy mental culture. The minds of these theorists had not been accustomed to diligent and laborious investigation, — to the sifting of thought, and discussing conclusions. The mind, like the body, is the creature of habit. It grows by what it feeds upon. And that mind whose aliment consists of a heterogeneous mass of knowledge, received without mastication and without digestion, is nourished only to a morbid, unnatural growth, whose offspring cannot be vigorous and healthy. That mind which is unaccustomed to sift, ponder, and prune the thoughts of others, cannot be reliable in its own convictions, — still less in its theories.

This tendency to superficiality is seen also in the occasional dejection of members of the profession to some form of quackery. Such apostacy as this is not found among men of sound mental culture, well grounded in the first principles of their profession, but rather among those who finding reason to distrust their own mental acquirements, mistake this for a distrust of the truths of medical science, and take up with some form

of empiricism better adapted to their comprehension.

The same tendency is proved by the verdict of posterity. After death, History sets up a tribunal before which every man is judged, and estimated nearly according to his true worth. It was an established custom among the Egyptians, that when anyone had died, a public accuser should arise against him, and carefully examine the life of the deceased with regard to the circumstances of all his acts and relations. If it appeared at this public trial that he had not conducted himself with due reverence towards the gods, or had not been sufficiently equitable in his dealings with men, he was condemned by a sentence of disgrace, and deprived of the honor of burial. Neither was punishment of this kind employed towards men of common rank alone; the rigor of the laws placed even kings themselves on a level with other mortals in this respect, after they had already been equalled with them by death: and it happened more than once that those mighty pyramids, built at vast expense,

remained unoccupied by the body of their unburied architect. That learned nation understood that since no greater worldly loss could befall a man than the loss of reputation, therefore every one must strive to leave the remembrance of himself in the minds of the people as honorable as possible: and those whom the love of virtue could not wean from their vices, would be deterred from them by the fear of infamy. — Victor Jerjomo precisely the same thing. She erects for herself a tribunal, from which she strictly inquires into the lives of men, acting as witness, plaintiff, and judge. Thus by the verdict of posterity every man is judged, and estimated nearly according to his true worth. He may be a man of much brilliancy, but little solidity, — of many words, but few thoughts, and he is discarded as of little worth to the world. Again, if he be a man of deep thought and earnest cultivation, although all of his thoughts which have ever been uttered in the ear of the world might not cover a single printed page, yet these are memorable words, and will be repeated and acted upon long after the

mind which gave birth to its conceptions has left its earthly abode, and the tongue that uttered its thoughts is palsied in death. — This verdict of true worth is pronounced upon but few of those who have devoted their lives to the profession of Medicine, while the many who have given themselves to its practice rather than its culture, win for themselves at the most only a temporary fame, but gain no lasting remembrance.

This tendency to superficiality is seen again in the fact that so many men are ushered upon the medical world with so little preparation. When it is true that men can attain the rank of medical practitioners, and thus, so far as this fact goes, place themselves on an equality with exalted worth, and lay claim to the respect and confidence of the world, while at the same time their acquirements are superficial, it is proof that the standard of attainment among medical men is too low. A vigorous intellect and severe mental culture are required in the investigation of the truths of of medical science, as well as in the complicated practice of the art. And when

these qualities are placed on a level with ordinary mental attainment, they are necessarily degraded from their proper rank: and thus a character of superficiality is given to the whole medical profession.

Thus we have seen this tendency to superficiality manifested, in the first place, — in the general intellectual habits of the profession, — again, in a particular tendency to theory and speculation, — third, in an occasional apostacy from the true medical faith, — fourth, in the verdict of posterity, — and last, in the attainments of many who enter it, giving a character to the whole profession.

We must next proceed to consider some of the causes of this superficiality. The first is,

A deficient education preliminary to the study of medicine. This is not the place to argue the necessity of a collegiate education as a preparatory step to the study of medicine. Suffice it to say that either such a course is necessary, or else some one which shall be equivalent to it in variety and extent of erudition, and in thorough mental discipline: and nowhere else can such a course be gained with equal

facility, thoroughness and economy, as in College. The knowledge which is thus gained, both of the Classics, Mathematics and English literature and science, is directly needed in the study of medicine. We might even with propriety speak of the Classics of the human body. In fact, Medicine is eminently a classical study, abounding in classical allusions and associations. — One of the most important advantages of such an education is, that it brings within reach of the medical scholar those works of the Fathers of Medicine, written in ancient languages, some of which never have been, and while the world stands, never will be superseded in worth. — An additional advantage of such a course is, that it affords the necessary discipline of mind. This needs no demonstration. — In short, if we may be allowed the expression, there is no need of vulgarizing the science of medicine. It is a science, recondite. And the less it is placed within the reach of ignorance and mediocrity of attainment, the better. If it is not worth a long preparatory course of study and mental toil, it is worth nothing.

He who devotes himself to its pursuit will reverence it more highly, and love it more ardently, the more labor it costs him. Besides, by vulgarizing the science of Physic, so as to place it within the reach of mediocrity of attainment, and even of ignorance, we disown from its kindred sciences; for these are every day making rapid advances in refinement. Ignorance must assent to the superiority of science, and consent to be elevated, or else science must confess that she has too much refinement, and thus deny her godlike parentage, and forfeit her self-respect. The two cannot subsist together.

A second cause of superficiality, which I shall only mention briefly, is to be found in the course of education pursued at our medical schools. The system of medical education has, confessedly, heretofore, been attended with numerous errors and deficiencies. Some of these are almost naturally inherent in such a course of training, and many of them have been hitherto beyond the power of any single man, or small body of men, to control. But it is gratifying to see that these evils are rapidly being

appreciated, and the appropriate remedies applied by those whose province it is to correct them: and there is good ground for hope that the day is not far distant, when, whatever faults may be chargeable upon the medical profession, superficiality of thought may not be one of them.

A third cause of this superficiality, and one which directly results from the preceding, is a deficiency in the acquirement of professional knowledge and skill. Such a deficiency naturally leads one, in his intercourse with his patients, to form habits of hasty generalization and uncertain diagnosis. In the absence of accurate medical knowledge and a reliable judgment, he is led to fall back upon fanciful conjectures and erroneous hypotheses. And this introduces a fourth cause of superficiality, intimately connected with the last two, and that is,

A want of habits of sound thought and laborious cultivation. We have previously mentioned this as one of the ways in which superficiality manifests itself: thus it is the cause of its own manifestation.

It is superficiality of thought and culture, producing and at the same time evincing itself by a general superficiality of character. The cause of medical science cannot be properly sustained and advanced by a few men of profound erudition and laborious culture, who shall be separated from the body of the profession by a great intellectual space, as if by an inaccessible height; while the latter, — the medical plebs, — stand on a level with the uneducated multitude, and gape and wonder, as if at some phenomena of intellectual attainment which they were not called upon to emulate. The standard of medical truth is not to be borne by a few far in advance of the multitude of the profession, while they follow at a distance in its train, scarcely daring to look at it and call it theirs: nor is it yet to wait for them, so that all may go on together. But the professional body are to be urged onwards to the point occupied by their standard bearers, surrounding them in solid phalanx; so that although the staff may be upheld by some master mind, yet the cords which direct and control it, so as to

keep it from wavering or turning, are to be held in the hands of every man from the center to the outermost rank. — In the language of the published "Ethics of the American Medical Association", "If able teachers and writers, and profound inquirers be called for to profound medical science, and to extend its domain of practical application and usefulness, they cannot be procured by intuitive effort on their own part, nor by the elective suffrage on the part of others. They must be the product of a regular and comprehensive system, — members of a large class, from the great body of which they only differ by the force of fortuitous circumstances, that gave them temporary vantage-ground for the display of qualities and attainments common to all their brethren." — We often see the superficial man perplexed in cases like the following. Almost every practitioner occasionally meets with cases bearing an altogether anomalous character, marked by a group of symptoms not described in the ordinary scope of medical research. Here we find the man who has to depend entirely upon superficial attainment confused and lost. He revolves in his mind the routine of his

knowledge, and at last stops in a mage of most unsatisfactory ignorance. The man of deep thought and thorough cultivation, on the contrary, has his mind disciplined and developed by habits of keen observation, and stored with the thoughts of others which have become intimately incorporated with his own judgment. He thinks promptly and accurately, and either arrives at some satisfactory conclusion, or forms some probable hypothesis, and accordingly devises an appropriate remedy.

The fifth and last cause of superficiality in the medical profession is, a want of proper self-knowledge. This self-knowledge consists simply in a knowledge of our own powers, and of our relations to others; including also a just appreciation of our attainments, as well as a thorough understanding of our deficiencies, our temper, our inclinations and prejudices. It teaches us what we are and what we do: and what we must be and do in order most effectually to promote our own usefulness and happiness. Self-knowledge differs from other kinds of knowledge in that while other sciences

are respectively suited to the various conditions of life, some more necessary to one, and others to another, this equally concerns every one, and is of the highest importance to all. Juvenal said, "E coelo descendit γνῶθι σεαυτόν." It is in truth a heaven-born virtue, and like other virtues requires effort for its attainment. We must know our condition and circumstances in life, and the part which is assigned us to act. We must understand our own capacities and talents, and how they may be improved to the best advantage. It is a sign of great self-ignorance for a man to set about anything which he wants capacity or opportunity to accomplish. A wise man will seek thoroughly to understand for what his talents are best fitted, lest by aiming at something which is beyond his power he should incur the charge of rashness and presumption, and subject himself to ridicule. And by a thorough self-knowledge he may also, on the other hand be prevented from undervaluing his own abilities and be incited to strive after, and enabled to attain much that he would otherwise

despair of ever reaching, through self-distrust. It is an oft-repeated maxim, that "Knowledge is Power", and it applies as truly to this subject as to any other, — Self-knowledge promotes self-control. This is one of the principal advantages of an acquaintance with ourselves, — that it gives us the most constant and the truest self-possession. Self-knowledge also improves our judgment. It qualifies us for judging of men and human nature: for human nature, setting aside the difference of natural genius and the improvements of education, is much the same in all. So that if a man be well acquainted with his own traits of character and natural disposition, by a little observation of the ways of men he will be enabled to form a much truer judgment of men than if he were governed in his opinions by popular prejudices.

The want of this self-knowledge is nowhere felt more than in the Medical profession; for in none of the professions, and in few of the other departments of life are men ushered upon the stage of activity with so little forethought of what is to constitute their task, and so little afterthought to assist them

in performing their task, as in Medicine. And if at the same time they are deficient in an acquaintance with themselves, they are wanting in the elements of a successful career. They go from the school to the lecture room with the idea that they are to study, or perhaps not even that, but only read medicine. They have their eyes fixed on the Doctor's gig beyond, and the money which he does not always put in his pocket, and that is all. They have not once coolly sat down to count the cost; — they have not calmly reflected upon the duties which devolve upon the Medical man, both in his profession, and out of it; and the qualifications which fit a man for those duties, morally, physically, socially and intellectually. And because they have not thought upon these prerequisites, they have least of all calculated their own fitness to bear this great responsibility. — The first season of lectures is spent in admiring the complicity of the arrangements of the human body, and the laws which regulate its action under the influence of health and disease; They then set themselves to work to learn facts, carefully isolating them from their connections. And before they

have once thought of collecting together and comparing the minutiae of medical science, upon which its great facts and principles depend, in order to take a comprehensive and thorough view of the whole, they find themselves weighing the question of graduation. Here the question is not with them of fitness, but of temporary expediency; and they receive their diplomas with the expectation that existing deficiencies will be removed by future exertion.

From this point their paths begin to diverge. Those who were not fitted by natural or acquired qualifications for the responsible station of physicians are disappointed in finding instead of an immediate and extensive patronage, none at all. They soon become disgusted, as they say, with the practice of medicine; while if the truth were known, they are disgusted with themselves as practitioners: they select some other path in life, and the medical world is rid of them.

Another class are persuaded by their self-conceit to think that they can succeed as well as those who have gone before them, even if they are a little

deficient. And unfortunately they often succeed better than some who know more; making now a lucky hit, and then a gross blunder, — but making both serve their turn; avoiding the danger of being run over and trampled upon, only by dodging everybody's prejudices and peculiarities.

A third class, having pursued a different course of training from the other two, knowing their work, and having studied their own fitness for it, adopt fixed principles of action, seeking the good of mankind, undertake their task manfully, and carry it forward to its completion. They found their success upon a thorough knowledge of themselves, seconded by a thorough knowledge of their profession. The one is as necessary as the other. Without both none can succeed; but with them every one may reach the acme of his highest ambition.

We have thus enumerated as causes of medical superficiality, first, a deficient preliminary education; second, a deficiency in the process of training in medical schools; third, a deficiency in

the acquirement of professional knowledge and skill; fourth, a want of habits of sound thought and mental cultivation; and last, a deficient self-knowledge. These deficiencies are not all to be found wherever a superficial character is observable, but we think that in every such character, one or more of these traits in different degrees of prominence will be found to exist.

Superficiality may be considered a disease of the medical profession. The members of the profession individually are accustomed to investigate the diseases of others; and while thus engaged, not only are they liable to the same, but the medical profession as a body may fall into a morbid state requiring correction. Thus superficiality may be regarded as a sort of medical anaemia, whose pathology we have been considering. Like anaemia of the physical system, this is characterised by extreme debility; and by an analogous mode of treatment benefit accrues to the mental invalid: — by vigorous mental exercise, judicious intellectual diet, and the free

use of an iron will, — a chalybeate not prepared by the art of the apothecary, but of specific virtue in the cure of intellectual atony.

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